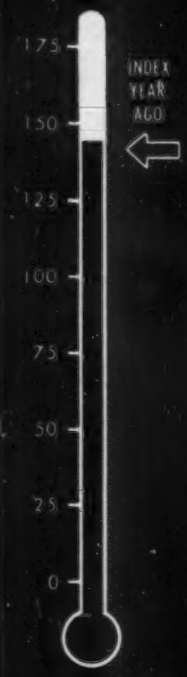
BUSINESS WEEK



Jonathan Logan's David Schwartz: In the garment trade, bigness is the new look (page 132)

A McGRAW-HILL PUBLICATION

AUG. 18, 1956

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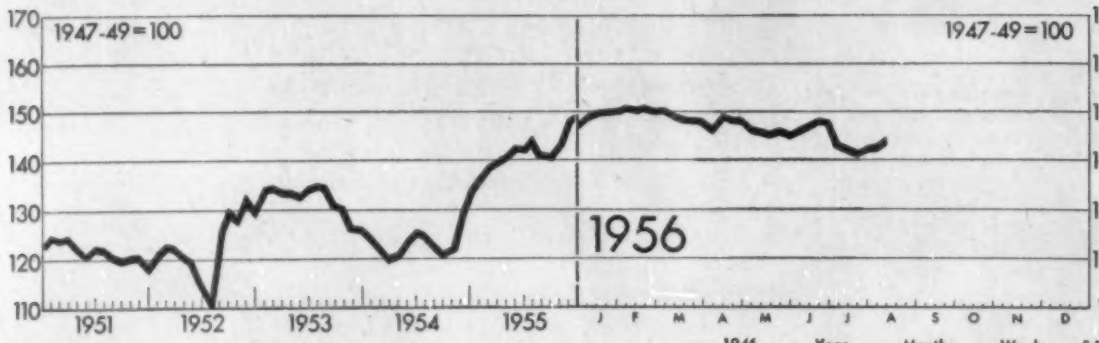
NUMBER 1407

FIGURES OF THE WEEK



	1946 Average	Year Ago	Month Ago	Week Ago	§ Latest Week
BUSINESS WEEK INDEX (chart)	**91.6**	**142.1**	**142.7**	**143.0**	***144.7**
PRODUCTION					
Steel ingot (thous. of tons)	1,281	2,176	377	1,415	**2,106**
Automobiles and trucks	62,880	175,822	146,173	140,989	**134,612**
Engineering const. awards (Eng. News-Rec. 4-wk daily av. in thous.)	$17,083	$55,856	$80,628	$59,189	**$53,636**
Electric power (millions of kilowatt-hours)	4,238	10,729	10,878	11,190	**11,530**
Crude oil and condensate (daily av., thous. of bbls.)	4,751	6,635	7,084	7,065	**7,086**
Bituminous coal (daily av., thous. of tons)	1,745	1,517	1,843	1,505	**1,540**
Paperboard (tons)	167,269	274,078	202,972	280,659	**273,441**
TRADE					
Carloadings: miscellaneous and l.c.l. (daily av., thous. of cars)	82	72	72	63	**63**
Carloadings: all others (daily av., thous. of cars)	53	56	52	45	**47**
Department store sales (change from same wk of preceding year)	+30%	+5%	+3%	−1%	**+7%**
Business failures (Dun & Bradstreet, number)	22	169	251	282	**229**
PRICES					
Spot commodities, daily index (Moody's, Dec. 31, 1931 = 100)	311.9	400.7	411.7	419.1	**422.6**
Industrial raw materials, daily index (BLS, 1947-49 = 100)	††73.2	96.7	94.3	96.0	**96.4**
Foodstuffs, daily index (BLS, 1947-49 = 100)	††75.4	79.3	80.9	82.3	**82.5**
Print cloth (spot and nearby, yd.)	17.5¢	19.0¢	18.6¢	18.6¢	**18.6¢**
Finished steel, index (BLS, 1947-49 = 100)	††76.4	153.9	158.3	158.5	**164.3**
Scrap steel composite (Iron Age, ton)	$20.27	$43.83	$46.50	$55.50	**$56.83**
Copper (electrolytic, delivered price, E & MJ, lb.)	14.045¢	36.270¢	39.750¢	39.810¢	**39.975¢**
Wheat (No. 2, hard and dark hard winter, Kansas City, bu.)	$1.97	$2.17	$2.06	$2.15	**$2.18**
Cotton, daily price (middling, 1 in., 14 designated markets, lb)	**30.56¢	#33.57¢	#34.84¢	**32.97¢	**33.01¢
Wool tops (Boston, lb.)	$1.51	$1.78	$1.79	$1.83	**$1.83**
FINANCE					
90 stocks, price index (Standard & Poor's)	135.7	334.0	389.2	391.9	**388.9**
Medium grade corporate bond yield (Baa issues, Moody's)	3.05%	3.57%	3.79%	3.88%	**3.93%**
Prime commercial paper, 4 to 6 months, N. Y. City (prevailing rate)	¾-1%	2¼-2⅜%	3¼-3⅜%	3⅛-3¼%	**3¼%**
BANKING (Millions of Dollars)					
Demand deposits adjusted, reporting member banks	††45,820	55,645	55,346	55,556	**55,428**
Total loans and investments, reporting member banks	††71,916	84,416	85,132	84,609	**84,402**
Commercial and agricultural loans, reporting member banks	††9,299	23,754	28,734	28,734	**28,727**
U. S. gov't guaranteed obligations held, reporting member banks	††49,879	31,634	26,349	25,978	**25,825**
Total federal reserve credit outstanding	23,888	25,584	25,903	25,172	**25,182**

MONTHLY FIGURES OF THE WEEK		1946 Average	Year Ago	Month Ago	Latest Month
Housing starts (in thousands)	**July**	55.9	122.6	104.0	**99.1**
Bank debits (in millions)	**July**	††$85,577	$161,748	$186,540	**$181,284**
Wholesale prices (U. S. Dept. of Labor BLS, 1947–49=100)	**July**	78.7	110.5	114.2	**114.0**
Exports (in millions)	**June**	$812	$1,319	$1,700	**$1,687**
Imports (in millions)	**June**	$412	$937	$1,090	**$1,032**

° *Preliminary, week ended August 11, 1956.*
† *Revised.*
†† *Estimate.*
** *Ten designated markets.*
# *15/16 in. staple.*
§ *Date for 'Latest Week' on each series on request.*

THE PICTURES—Grant Compton—Cover, 132, 133, 134, 186; I.N.P.—34; Martin E. Janis & Co.—194; Herb Kratovil—28 (bot.), 29, 56 (top lt. & cen. rt.); 96, 97, Archie Lieberman—84, 85; McGraw Hill World News—171; Dick Miller—190, 191; Montecatini—164-65; Newspictures—28 (top); Gene Pyle—114, 115; Seaboard & Western Airlines—116; Howard Staples—104, 106; U.P.—56 (bot.), 57; W.W.—24-5 (top), 54, 56 (cen. lt.), 149; Woods Hole Oceanographic Institution—24-5 (bot.), 26

B.F.Goodrich

3000-degrees hot but doors don't melt

A typical example of B. F. Goodrich improvement in rubber

THERE'S melted steel inside those big furnaces. Temperature is 3000 degrees. The heavy steel doors would melt in minutes except for that hose that carries a stream of cooling water in and out of them.

But hose was burning out in months or even weeks. It had to stand heat 24 hours a day, seven days a week, was often banged by big "charging machines," spattered with hot metal. Then B. F. Goodrich developed a new kind of hose made of wire, asbestos and rubber. It had been in use more than a year when the above picture was taken. It is less expensive than the hose used before, is much lighter and more flexible, easier for workmen to handle. One man can install it where two men were needed for other hose.

B. F. Goodrich has made hundreds of improvements in dozens of kinds of hose to make them last longer, cost less, save your time and money. Most improvements, while making the hose stand more abuse, have also made it more flexible and easier to handle. B. F. Goodrich makes hose to carry almost anything—air hose that stands sharp flying rocks outside and hot oil inside, burstproof steam hose that can't burst even if it wears out, hose that lasts for years carrying gasoline, paints, chemicals, even dry materials such as flour or cement.

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INDUSTRIAL PRODUCTS

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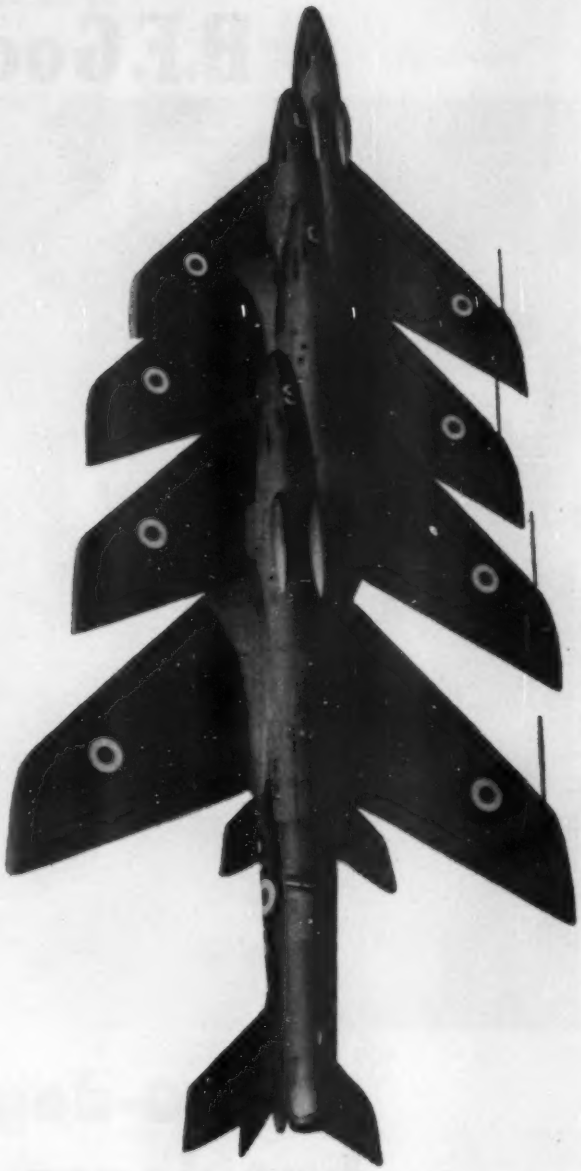

That's not an eight-winged space ship staring you in the face, but some spectacular close-formation flying by Royal Air Force jet pilots at a recent air show in England.

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READERS REPORT

Oil Replaced

Dear Sir:

Your article Chance—Good and Bad—Hits Oilfields [BW—Aug.4 '56,p36] is in error. Houston is the only place in Texas that has oil on its city dump. . . .

JOSEPH HORNBERGER, JR.
VICE-PRESIDENT
CARIBBEAN OIL CO.
HOUSTON, TEX.

• Reader Hornberger is correct. The oil should have been in Houston.

Figure Clarified

Dear Sir:

Your article Selling to an Unknown Market [BW—Jul.28'56,p 53] about Leeds & Northrup activity in the nuclear instrumentation field is well written and informative in the best BUSINESS WEEK tradition. May we clarify just one out-of-focus point.

The $28-million figure cited for current sales represents instead our approximate shipment-rate a year ago. Sales for year ended May 31, 1956, exceeded $35-million, and the shipments exceeded $30-million.

KENNETH W. O'CONNERS
MANAGER
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PHILADELPHIA, PA.

What Men Are Wearing

Dear Sir:

We noted your article on the Personal Business page [BW—Jun. 30'56,p160] regarding the importance of synthetics in men's summer clothes with considerable interest. . . .

We believe the figure of 90% is a considerable overstatement of the current success of synthetics in men's summer clothes. . . . Available statistics indicate that 26% of tropical weight suits sold this summer will be blends of "Dacron" . . . and wool. And another 20% will be wash-and-wear . . . blends. If the total figure even approaches 90% of the total it is a very pleasant surprise.

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Tensile properties:		
Yield (p.s.i.)	D638-52T	3380—5020
Break (p.s.i.)	D638-52T	3470—5240
Elongation (%)	D638-52T	56—66
Flexural properties:		
Flexural strength (p.s.i. at break)	D790-49T	6400—8500
Flexural modulus (10^5 p.s.i.)	D790-49T	0.23—0.30
Rockwell hardness:		
(R scale)	D785-51	62—94
Izod impact:		
(ft. lb./in. notch)	D256-43T	2.7—11.0
Heat distortion:		
(°C.)	D648-45T	59—78
Water absorption:		
% sol.-lost	D570-42	0.00—0.08
% moisture gain	D570-42	1.5—1.8
% water absorption	D570-42	1.6—1.8

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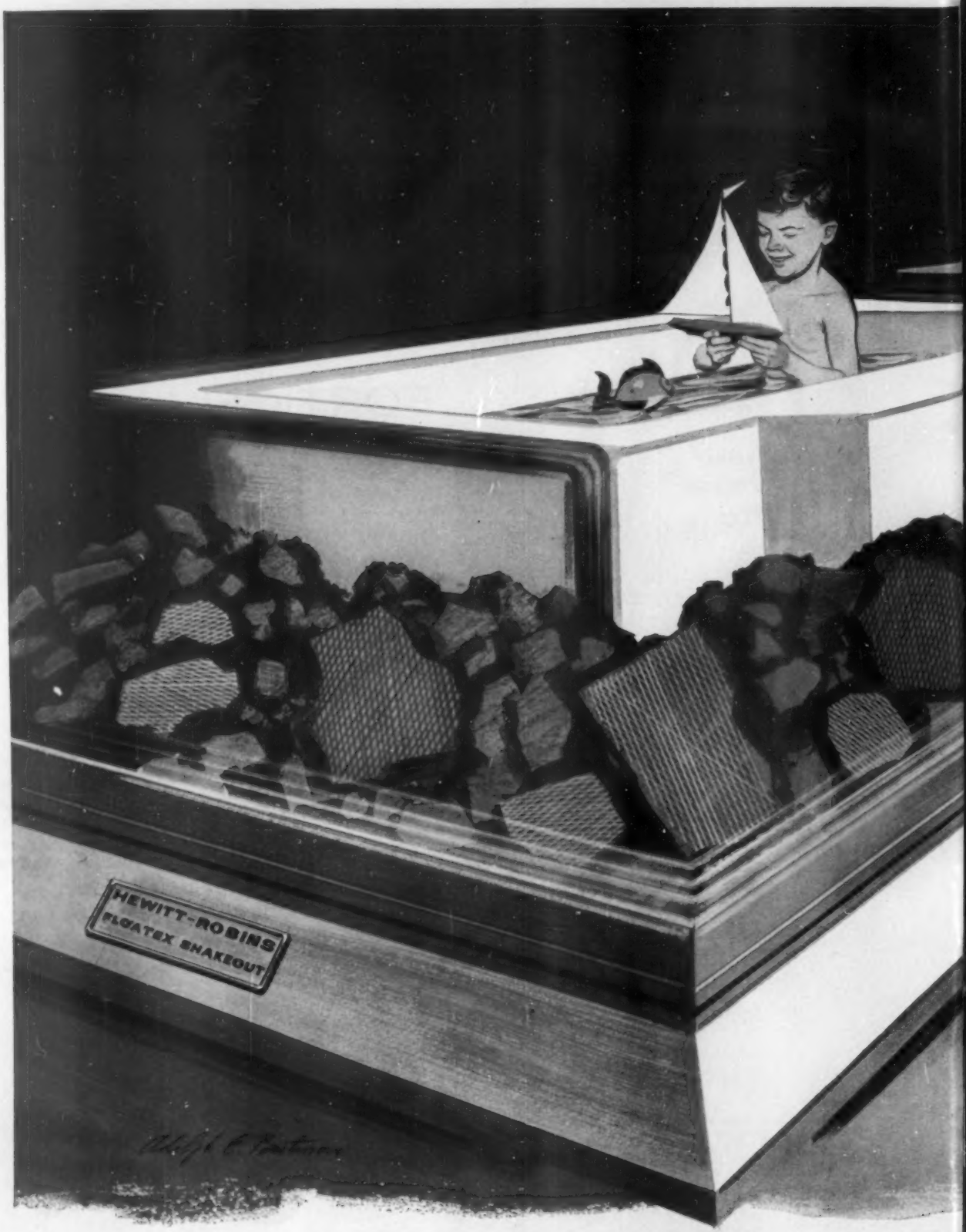

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Big results in automation at little cost

ADP obtained maximum benefits for this company—without heavy investment—without disturbing current operations.

SEE CASE HISTORY ON FACING PAGE

SMALL BUSINESS CAN AFFORD

ORDER DEPARTMENT—An incoming customer-order is checked against the Daily Stock Inventory Report, to record on the order papers: shipments to be made and back orders. Proper control, on paper, of an order's disposition means speedy shipment (in full or part) with prompt, accurate advice to salesman and customer.

ORDER TYPING—Prepunched cards containing *Ship To, Bill To, Item* and *Back Order Item* information are pulled. When processed through a card accounting machine, they immediately produce (on separate cable-connected typewriters) a Moore 6-part Continuous Invoice and a Moore 7-part Shipping Order (for both original and back-order shipments).

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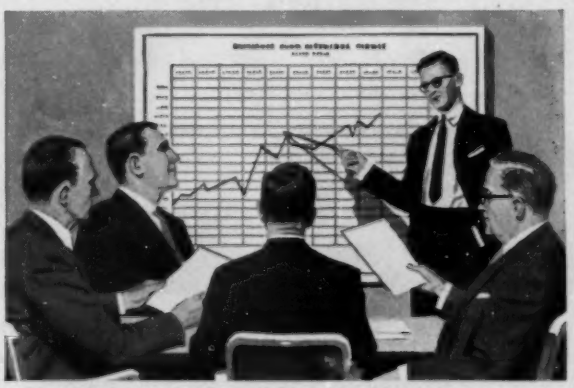

MANAGEMENT REPORTS—Tabulating provides reports daily (not weekly or monthly) *on the previous day's activity*. They are accurate, up-to-the-minute summaries on which management bases decisions that affect business today. This furnishes control never before realized, with the benefits felt in inventory handling, distribution and procurement.

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spects [but] each fiber has distinct properties, they are by no means interchangeable. . . .

Blends of synthetics with natural fibers are certainly important, as you point out, but not for the purpose of adding porosity. The porosity of a fabric depends on the *weave*, not the *fiber*. . . .

As to . . . perfectly tailored suits containing these fibers . . . a check of the highest level men's stores would show an excellent selection in the best quality available in ready-made clothes. . . .

D. F. HOLMES

MANAGER
MEN'S WEAR MERCHANDISING SECTION
E. I. DU PONT DE NEMOURS & CO.
WILMINGTON, DEL.

• The 90% figure is accurate as it pertains to the Langrock-Princeton operation. The national averages certainly may differ. In referring to tailorability we meant more specifically "fit." A perfect fit in garments containing synthetic fibers is impossible to achieve in the same sense as one would receive in a fine all wool garment.

The Gilded Cage

Dear Sir:

In reference to your article Gold Cage for a Busy Atom [BW—Jul. 21'56,p94] the expense of making a solid gold 24k reactor liner can be cut to one-tenth by: Plating the inside with gold for four 5-minute phases, brass-scratch-brushing after each 5-minute period, and electrocleaning in the usual way. The liner-container is then plated with rhodium, the noblest of the platable platinum metals, for about the same time as the gold plating cycle *but* one continuous period without current interruption. Such a lining will be at least the equal of pure gold in corrosion resistance.

LAZARUS BARRABEE

HOLLYWOOD, CALIF.

Dear Sir:

. . . Your article described the construction of a solid gold insert for an experimental power reactor containing fissionable phosphate salts. Considerable ingenuity and thought were required to fabricate such a unit and we are the first to applaud the success achieved by the Los Alamos Scientific Laboratory.

As electroplaters, though, we believe the practicality of the gold plating method should not be neg-

"Even the best inspectors can't spot a loss!"

The gentleman on the left is the new plant manager. Name of Jameson. He's got a lot on the ball, too. So has his foreman, for that matter.

But Jameson knows a thing or two his foreman doesn't. Like Department 12's high cost picture. In a moment he's going to drop a bomb – along with the figures to prove it could explode. And there'll be no disputing them, either. They were racked up only *yesterday*.

How did he get them? Keysort punched-card accounting. With daily reports on operation costing, Jameson's already spotted lost time – and the reasons for it. But he knows that with timely facts he and his foreman can move fast to protect the product's competitive, profit-included selling price – to correct a situation that, reported late, could mean the difference between "profit leader" and "also-ran."

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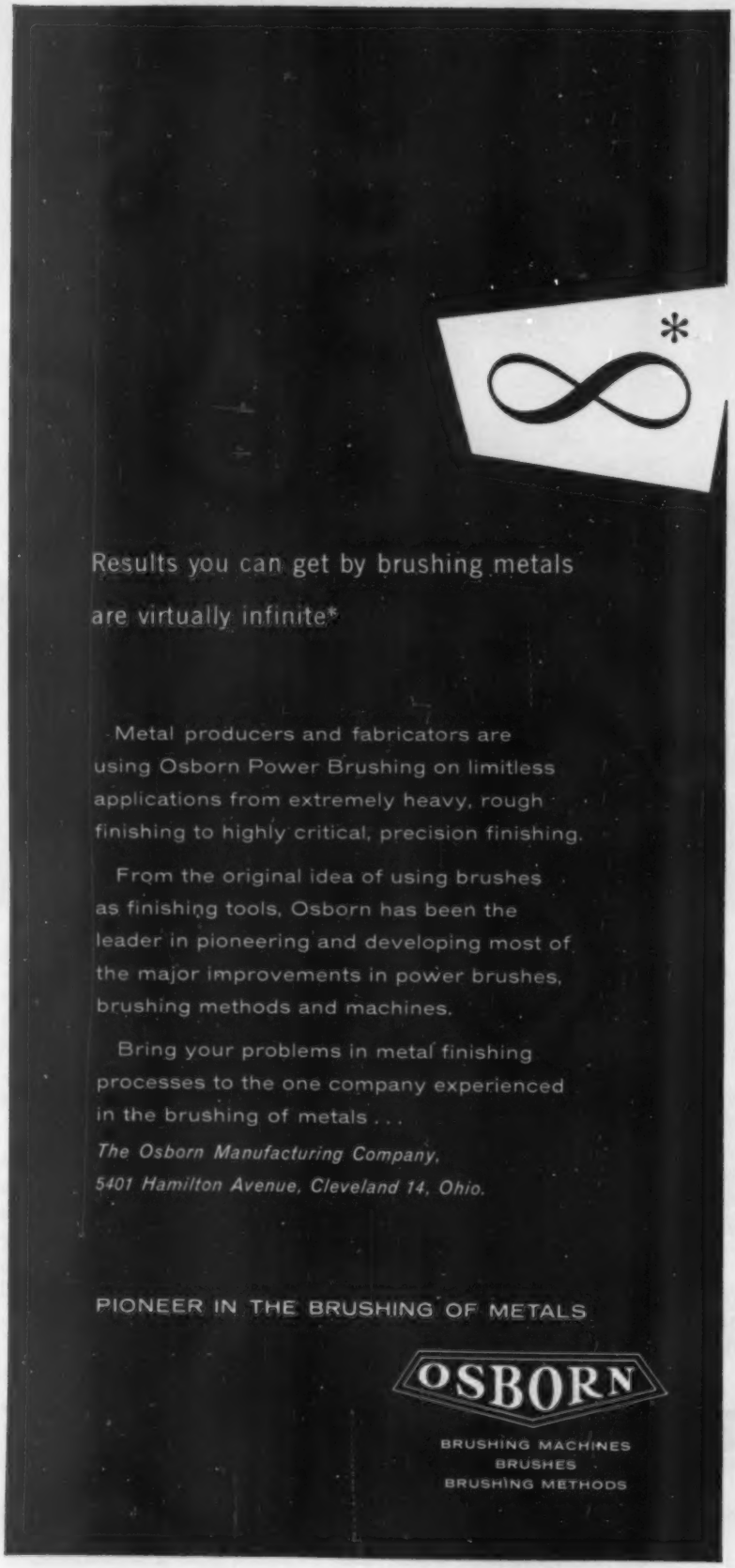
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lected. Certainly a test requiring the passage of not more than one centimeter of helium gas in thirty years is quite severe. However, in our work as precious metal platers, we are now cooperating with a concern that has perfected a spherical stainless steel container which allows less than one centimeter of helium to escape in over two hundred years. It is a production operation and we are plating these spheres daily. The specifications on this job do permit porosity in the electro-deposit so long as the base metal is tightly sealed. But we believe special techniques are now available which may make possible the absence of leakage and gain considerably in money saved.

While we recognize the importance of 100% performance for the pilot reactor at Los Alamos, we believe that a quantity run in the future on such projects should fully consider electroplating. . . .

JAMES ZACHARIAS
PRECISION ELECTROPLATING CO.
CHICAGO, ILL.

• Our understanding is that by multiple plating, you can be pretty sure of getting a leakproof layer of gold, but there is no way to test it. If you can check the thing frequently and catch corrosion before it eats through the steel tank, you're all right. But, if you have to have something that you can depend on for years without attention, you've got to use solid gold.

Clarence Misnamed

Dear Sir:

I am afraid the late Clarence Saunders wouldn't approve of your changing his first name to Charles [BW—Jul.28'56,p61—Shopping at Push of a Button]. He was very proud of his name and had it copyrighted. . . .

Also, his last Keedoozle store was mechanical, but some 15 years ago his first Keedoozle attempts were electrical. At that time electrical complications obviated success, so he switched to mechanical. Perhaps now with electronic development the store will succeed.

CHARLES L. MAXEY
WEBSTER GROVES, MO.

Letters should be addressed to Readers Report Editor, BUSINESS WEEK, 330 West 42nd Street, New York 36, N. Y.

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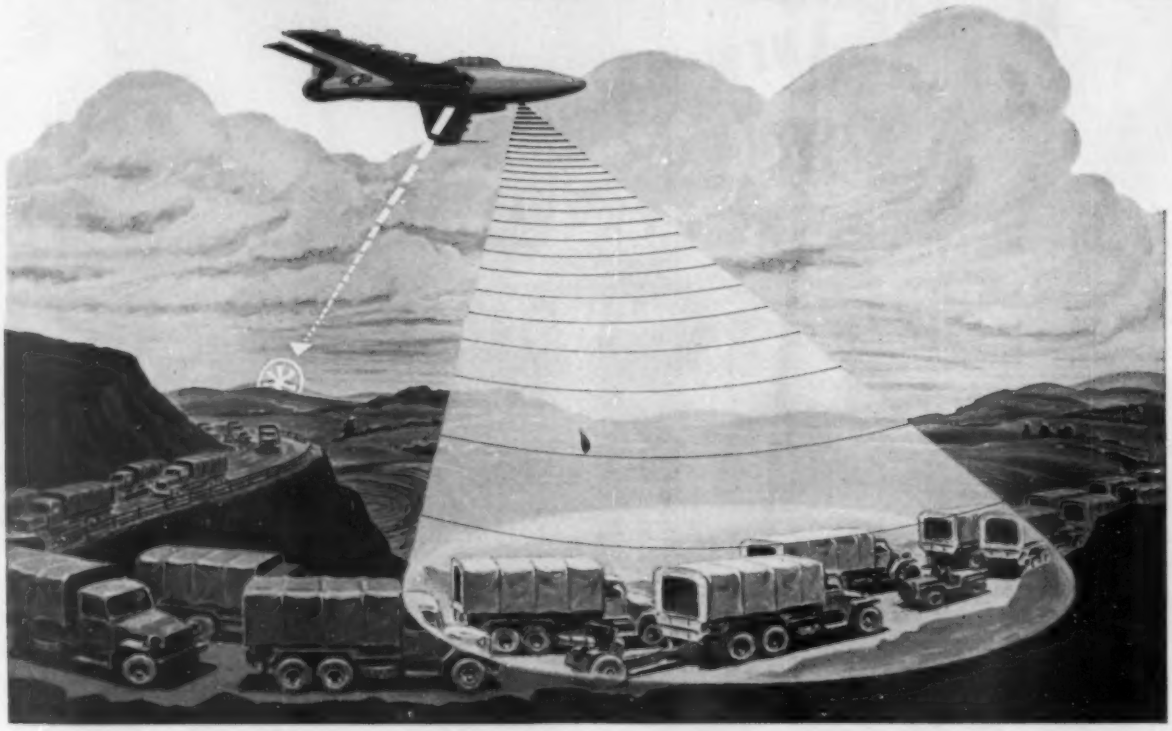

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TEXACO

INDUSTRIAL LUBRICANTS

BUSINESS OUTLOOK

Add one more factor in your rising costs: **the price of money.**

Attention lately has been focused on markups for a ton of material or an hour of labor. For most people, these are the big items.

Yet money is a very special problem now. **Not only is it costing more, but it also is becoming much harder to find** (page 23).

You'll be hearing a lot about the **difficulty of keeping on schedule with plant-and-equipment programs.** Money is of the essence here—as much, if not more so, than the hard-to-get structural steel.

When you recognize that the plant-and-equipment program is the boom's very backbone, you get **the full import of the money squeeze.**

Every day or so, you see in the paper that this or that company is "deferring" new financing. Or somebody has rejected all bids on a new issue of bonds. If you keep really close tab, you also see that even really top-flight borrowers are paying 4% for long-term money.

All this is bound to restrain expansion to some extent.

But there's also the marginal fellow who shops around and can't get money at any price. His plight rarely finds its way into print.

Here's the crux of the money market problem:

- **Will it prolong plant programs into 1957 and beyond** (thus putting a strong brace under the economy far into the future)?
- **Or will some plans go on the shelf**—to wait and see if consumer demand swings as high as had expectations when the plans were drawn?

Business investment, in dollars, may seem almost unbelievably high. Yet it isn't so large in terms of the size of our economy.

It now accounts for 8½% of all business turnover, just the same as in 1929. The percentage was higher in 1947, a bit lower in 1953.

—•—

Industrial structures and highways now are the big factors pushing 1956 construction to new records. With July gains of 35% and 22%, respectively, margins over a year ago widened rapidly.

Through June, the respective gains had been 27% and 15%.

Total construction had to fatten somewhere to stay ahead of 1955, because there were the **substantial losses in housing to offset.**

The value of work put in place on new dwelling units so far this year comes to less than $7½-billion, down $900-million or 11%. July's short fall **was the widest for the year to date,** behind by 15%.

These losses are only slightly diminished if you include additions and improvements, which are running $33-million higher than last year.

Starts on new houses and the contracts awarded for future starts hold **no promise of a turnaround in home building.**

On the basis of revised figures, April appears to have been the best

month of the year to date with a start made on 111,300 new dwelling units. By July, there had been a decline to 101,000.

When the monthly totals are adjusted for seasonal factors, the Washington experts figure July was little changed from June's 1,070,000 annual rate.

Here's something you may not have noticed about housing:

The decline in the **number of new homes started** and in the **value of work** at the construction site aren't so very different.

This is contrary to general thinking—that starts are off sharply but that actual activity isn't much smaller (due both to the fact that people demand "more house" and that costs still are rising).

In July, starts ran behind by 16% and value of work by 15%; for the year to date, starts are down 17% and value 11%.

—•—

Less residential construction undoubtedly shows up in many markets, but one of the clearest cases is **lumber and plywood.**

Despite cuts in output, **plywood prices have been tumbling for some time.** Now they're at the lowest level in about three years.

Lumber mills' **new orders and shipments** began to slide back in March. **Production** didn't respond quite so quickly, and now there is talk of further curtailment in an effort to stiffen prices.

Employment in the lumber industry, incidentally, was running about 30,000, or 4%, behind last year during July.

By contrast, the **steel and cement** that go mainly into industrial construction and public works continue in pressing demand.

Glass has benefited from heavy construction, but the industry no longer feels the pressure it was under last winter (after storm damage piled emergency demand on top of already bulging order books).

Substantial **new flat-glass capacity** has been brought in this year; in addition, two big customers (autos and housing) are laggards.

Pittsburgh Plate Glass reported second-quarter volume barely up to last year's, while Libbey-Owens-Ford's six-month sales were off.

—•—

Retail sales for July doubtless would look pretty discouraging if you were to accept them at face value.

• Take the government figures on sales of all stores. These show a sharp drop from June and a relatively small increase over a year ago.

• Moreover, leading chains had smaller gains than in earlier months—with several actually falling below year-ago levels.

Steel strike? No, guess again. The explanation is quite simple: **July had one less trading day this year than last.**

—•—

The 1956 auto year is just about all over but the weeping (page 30).

July sales were slow—75,000 behind 1955 and 50,000 below June. Yet they exceeded output and pared floor stocks to 600,000 cars.

That's 200,000 under year-ago stocks, and **the clean-up looks easy.**

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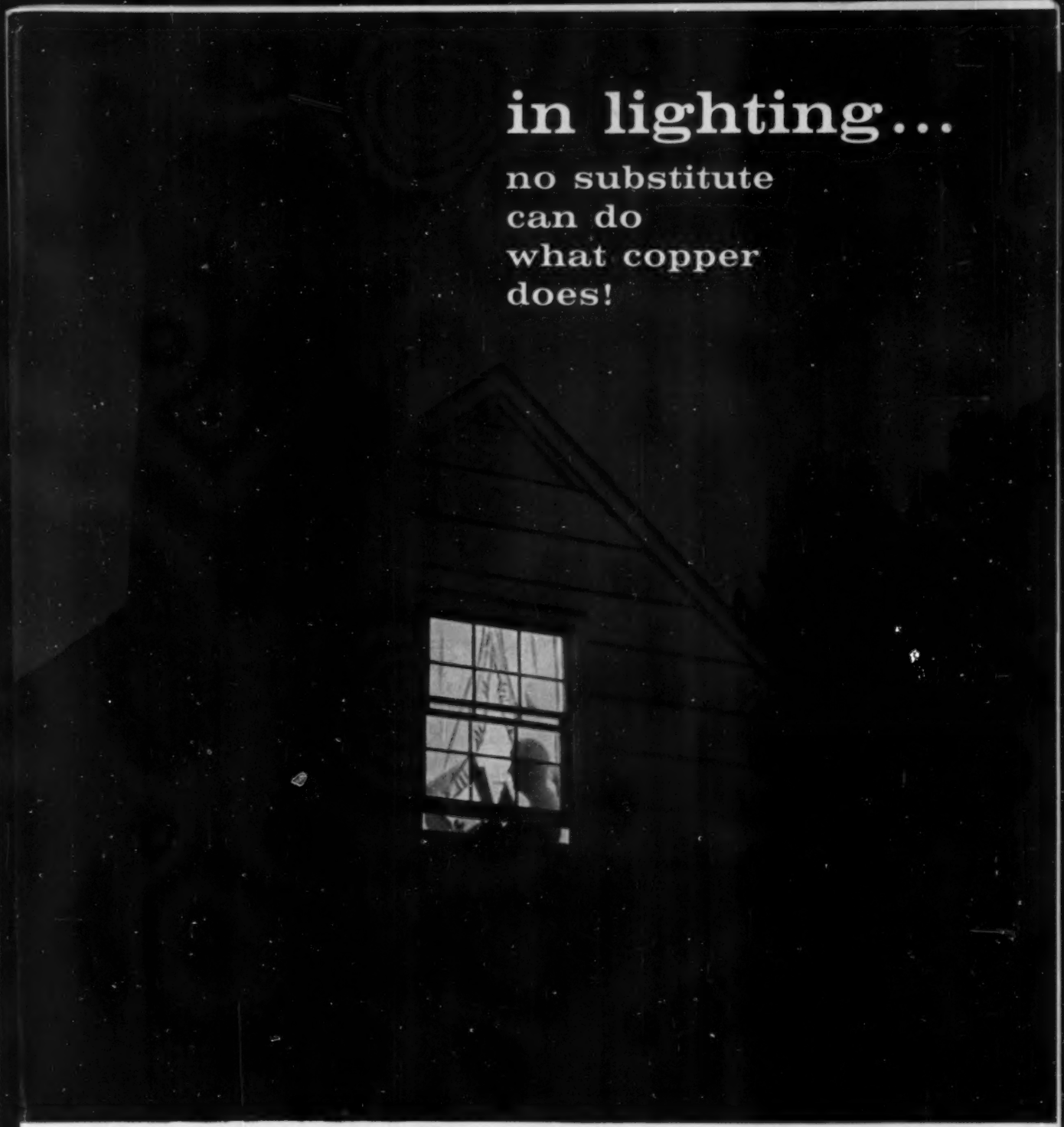

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BUSINESS WEEK

AUGUST 18, 1956

NUMBER 1407

Credit: Tighter, More Expensive

● The Federal Reserve has decided to tramp on the money brakes—even harder.

● It is ready to put through another rise in the discount rate, to head off the inflationary upsurge in business that it sees in the making.

● That will mean that all borrowers will have to pay more and scratch harder for funds.

Convinced that the economy is inflation-bound, the nation's monetary managers set themselves this week to tighten the credit screws once again.

At midweek the Federal Reserve had decided to signal a return to an aggressively restrictive credit policy by raising the discount rate—perhaps immediately, certainly within a week. The discount rate is the rate that the Federal Reserve System charges member banks making temporary borrowings (rediscounting) at the Fed. At present, the Minneapolis and San Francisco Feds charge 3%, while the 10 other regional Fed banks have a 2½% rate. The plan is to approve a uniform 3% discount rate, which would put it at the highest level since 1933.

This hike, the sixth successive discount rate increase in the last 17 months, will touch off a new, across-the-board round of increases in borrowing costs. The nation's commercial banks, already hard-pressed for lendable funds, will be the first to feel the impact. They will undoubtedly raise their prime rate—the rate charged their biggest and best customers—from 3½% to 4%. All other bank loans, of course, will be scaled upwards from the new prime rate.

I. Waiting for the Gong

Midweek though the Fed had not yet made its move, the money market was poised for the news:

• The 91-day Treasury bill rate, which is one of the main indicators of money conditions, shot up from 2.39% to over 2.60%, the highest rate since the squeeze last April.

• Commercial paper dealers raised their rates one-eighth of a point, thus reversing a reduction they had made during the temporary ease in credit (BW—Jun.23'56,p23). The rates on bankers' acceptances also moved up—the fifth raise this year.

• Long-term government bonds dropped to new lows for the year, with the 40-year 3% issue now yielding over 3.16%.

• Corporations offering new long-term bond issues on the market were faced with paying peak rates—or else. This week, Michigan's Consumers Power Co., a top-grade utility, was forced to pay 4% on a $30-million offering of 30-year bonds—the highest rate for such an offering since the early 1930s. Meanwhile, three big corporations—Consolidated Natural Gas Co., Commercial Credit Co., and C.I.T. Financial Corp.—withdrew bond offerings from the market, unwilling to pay the price.

• **Bugaboo**—The fact that the Fed is willing to press down on the credit brake when money is already tight and interest rates high, makes plain its fear of inflation. It is afraid that the aftermath of the steel strike has increased the possibility of a new upward thrust in wages and prices that can lead to trouble. Fed officials feel they must move now if the economy is to be kept on an even keel.

• **Change of Policy**—This represents a new shift in the Fed's appraisal of the economy, and a return to the aggressively restrictive policy it had pursued during the spring. In April, the Fed had approved a rise in the discount rate that set a twin level, with two of the banks at 3% and the rest at 2¾%. It maintained this dual rate while it eased up on credit by supplying the banks with reserves during June and the early part of the steel strike. Then, while the strike was in its last stages, it tightened up somewhat, but was not sure of how far it should go (BW—Jul.21'56,p23).

Now it is convinced that it must take a dramatic tightening step. This conviction has been growing among Fed officials ever since the strike ended. In fact, the discount rate would have been raised as soon as the strike was over except that the Treasury was in the midst of a refinancing and a move by the Fed would have interfered with its plans. When the Treasury's operations concluded, the Fed was ready to step in.

II. Heading Upward

The key to this urgency among Fed policymakers lies in their current sizing up of the economic outlook. They see consumers and corporations in an "optimistic mood," ready and willing to spend. And they point out that there are fewer economic weak spots, which acted to hold down the booming sectors, than there were a few months back.

Farm prices, for example, are now pushing up rather than declining. This, says the Fed, adds to inflationary pressure, while all last year the decline in agriculture served in part to hold the boom in check.

The Fed also cites the auto picture. Though auto people themselves talk of caution (page 30), the Fed is afraid that Detroit, having pared down dealer inventories of 1956 models by slowing production, is now setting up extravagant production in expectation of a banner year ahead. This, too, is a reversal of the first-half pattern, when Detroit's downturn helped moderate the over-all upturn in capital spending and inventory expansion.

Only the housing market, which was also a stabilizing factor during the first half of the year, is failing to show signs of a recovery (BW—Aug.11'56,p32). But, as one Fed official put it, "The economy would be in a much more

dangerous position if we got a turnaround in housing. Then there wouldn't be any anchor—we would just take off."

From the Fed's viewpoint, the declines in farm prices, autos, and housing were responsible for the marking time period the economy experienced during the first half. Now, with capital spending still strong and a new wave of inventory accumulation in prospect, the recovery in farm prices and auto production means that there is little likelihood that the economy will stabilize on its own. Instead, the Fed sees intense consumer-business competition for credit.

III. Curb on Excesses

Under these circumstances, the Fed feels that action is needed to curb excesses. It does not want to see production stalled, but it is afraid that a too rapid increase in production may develop. Nor does it want expansion to be halted, but it is determined that this should not be accomplished through the use of short-term bank credit.

Thus, an increase in the cost of bank borrowings from the Fed is not merely designed to make credit more expensive. It is also aimed at making the banks more discriminating and selective in extending credit to borrowers. In fact, if the demand for credit does not show a slowdown in coming weeks, the Fed may supply the banks with less than the normal amount of reserves it usually provides during the fall months when seasonal needs are high.

The Fed is disturbed that many corporations, unwilling to pay the going rates for borrowing in the long-term corporate market, are getting loans from the banks. By raising the discount rate, it hopes to curb the amount of bank credit being used for long-term projects. Higher interest rates may induce an increase in private savings and investment, which, the Fed feels, is the basic source of funds for capital expansion.

• **Near Panic**—In the light of these developments, the corporate bond market is in a state of near panic, and government security dealers simply say "there is no government bond market." Underwriters are finding it hard to adjust to a rapidly rising pattern of interest rates. They did not feel any relief when the Fed eased credit temporarily in June—the big demand for long-term funds kept rates going up. At the same time, corporations shy away from high rates. As one treasurer complained, "It's hard to pay through the nose for money when you've been accustomed to low rates. This climb has happened so fast that many of us can't get used to the idea it is here to stay."

But the Fed feels that once it makes clear that interest rates are not going down, the bond market will straighten itself out.

IV. Backstopping the Boom

Fed officials are well aware that many financial experts believe that the resumption of a restrictive policy may result in a crippling of the boom. Although the monetary policymakers are not themselves unanimous, the majority consider such a possibility extremely remote. It is their belief that the new tightening will help to prevent credit speculation that would have hurt the economy. As one Fed official put it: "A rise in the rate would be an indication of our feeling that the economy is healthy and prosperous and that we want it to stay that way."

Moreover, should a sudden slide develop, the Fed is quietly confident that it can cope with it effectively. It feels that it has demonstrated its ability to be flexible over the past few years, and if the economic climate changes, it is prepared to make a rapid adjustment.

Much of its confidence is based on its performance during the first half, when, against Administration and business opposition, it tightened credit. Now, it feels its position was vindicated, and that the "statistical crepe hangers" who felt certain that tight money would bring a recession have been proved wrong.

• **Election Issue**—The Fed recognizes that a new hike in rates may make its monetary policy an issue in the election campaign. Its officials are very anxious to keep out of the political spotlight, yet they feel that the economy would be much more vulnerable if they did nothing.

As they see it, inflation, not deflation, is the problem. "The way we will get unemployment and overproduction is through inflation," one official said. "Our job is to try to keep a serious inflation from happening because then we would be in for a serious recession."

The new Fed position is in sharp contrast to the policy it followed in the election year of 1952, when business was poised for a new upturn after a similar steel shutdown. At that time, the Fed did not step in with any open restrictive moves, but waited until the election was over before hiking the discount rate.

• **Early Action**—That delay, Fed officials now say, was a mistake. They had to press harder and faster than if they had taken early action. Now they are acting early in the hopes that it will slow down credit demand now in order to extend the boom into next year.

Can We

TO THE MEN set for the grim task of clearing up the havoc brought to Puerto Rico (above) by Hurricane Betsy, the season's first—or to those who may be caught in the path of later versions, from Carla on—the mission of the R. V. Crawford, pictured below, may seem small comfort.

But today's stepped-up hurricane research, symbolized by the ship, promises

Scientists set out to find

Stop Hurricanes in Their Tracks?

both a measure of immediate help for hurricane-threatened areas—and a more glittering hope for the future:

• The immediate practical aim is better storm forecasting to forewarn residents of such disasters as swept through New England and the Middle Atlantic States last year.

• The ultimate goal is more far-reaching. Much basic atmospheric and oceanic research must be done before current theories on how a hurricane is born can be accepted. But scientists hope within the next five years to engineer a means of actually preventing hurricanes. And their hope seems reasonable, once detailed studies at sea have been completed, and the weak link in the chain of hurricane formation is found.

how hurricanes are born.

• **Right Moment**—What makes the difference between hurricanes and no hurricanes is clearly something very subtle, according to Columbus O'D. Iselin, director of the Woods Hole Oceanographic Institution (from which the R. V. Crawford set out on its hurricane-tracing voyage). It is now widely believed that hurricanes start as weak disturbances, in the presence of certain specific conditions.

This is clearly the time for men to attack them, by slightly altering the conditions so as to modify the structure and movement of the building storms. But by the time weathermen have recognized them on the weather maps, the energy has become organized and it's too late for anything to stop them.

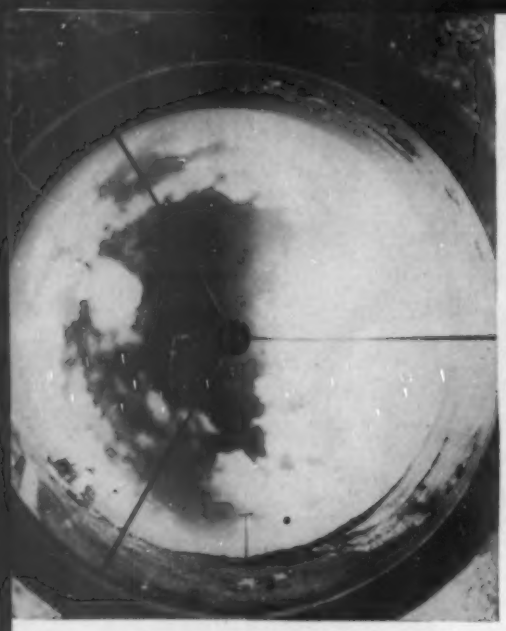
So it becomes obvious that studying at first hand the conditions under which hurricanes are born is essential.

But it's a drastically new pattern for hurricane research. Meteorologists up to now have worked largely from weather maps, which are particularly lacking in reliable observations about mid-ocean areas in the tropics. Yet the tropical area of the North Atlantic (between 5 deg. and 20 deg. north of the equator—roughly from the coast of Guiana to northern Haiti) is just the place where hurricanes breed.

• **What's Known**—As a starter for the vital fund of information needed for any real attack on hurricanes, there are several generally conceded facts:

• Those who have flown into hurricanes have the impression that no two are ever alike. So researchers are trying to distinguish between characteristic features (maintained for an hour or more) and those that are transistory. This is vital for making any generalizations on such matters as calculation of wind fields at various levels or the thermal structure of a hurricane and its relation to energy processes, or for studying the development of spiral rain bands.

• It's known that a tropical hurricane invariably forms over ocean regions where water temperature is high, and where winds are abnormally light across the northern half of the trade wind belt. A water temperature of 78.5% or above



MIRROR VIEW of sky and sea conditions is photographed once a minute by movie camera on bridge of hurricane research ship.

has been suggested as favoring the birth of a hurricane.

• **Theories**—Given these known conditions, there are two different versions of what happens.

One theory has it that heat begins to accumulate close to the surface of the water, and that this acts as a fuel for cloud development by causing water to vaporize. The water vapor, instead of being dissipated by wind, builds up in a cumulus cloud layer 15,000 to 20,000 feet high. This causes the air pressure underneath to drop. As a result of the falling pressure, cooler air from outside rushes in below the clouds. Because of the earth's rotation, this air starts circulating in a counter-clockwise direction, being sucked in below the clouds, then drawn up into the cloud, and forced out again into the upper atmosphere.

From that point on, the die is cast, and you get a constantly widening area of disturbance.

Supporters of this theory look for a prevention clue in studying the formation of such clouds and the way energy is released and transferred between the storm and its environment. They hope to find some thermodynamic imbalance that's essential for continuance of the cycle—and a way to modify it so as to break up the chain reaction. This might be done by cloud seeding to force rain at an early stage before the cloud builds up, or by getting rid of the early accumulation of heat that starts the process, or in other ways.

• **Different Angle**—Woods Hole's A. H. Woodcock takes a slightly different angle of approach to the same basic conditions of unusually light winds and high ocean temperatures.

His studies seem to indicate that this combination results in producing in the air too few of the larger condensation sea-salt nuclei that cause lower clouds to rain out over the water. Thus the humidity of the lower atmosphere builds to abnormal levels, bringing a condition of great instability, with a large-scale wave-like disturbance in the light easterly winds.

As this wave travels westward, the winds pick up at its crest and whitecaps form, producing salt spray and a sudden supply of the salt nuclei. Then clouds begin to rain out, and there's a tremendous sudden increase in latent heat.

The typical hurricane pattern then becomes evident. Clouds increase in height and remain active for a long time, so that the low-level wind flow becomes organized over a considerable area—much as a whirl forms over the drain in a wash basin.

This theory leads to similar hopes for hurricane prevention. If you could assure the presence in hurricane breeding grounds of enough larger condensation salt nuclei where lack of wind curbs their natural formation—the reasoning goes—then the hurricane pattern would never get started.

• **Thorough Test**—Both theories will get a thorough testing by the former Coast Guard cutter Crawford (picture, page 24), now cruising in the tropical area between the Cape Verdes and the Caribbean.

It's the first ship ever converted for hurricane research, and it's expected to fill many gaps in oceanographic and meteorological thinking about hurricanes—gaps that aircraft studies haven't been able to fill.

The reason for such optimism is simple. The tropical area between 5 deg. and 20 deg. north latitude has been shunned by scientific research vessels during summer months—because of the heat and humidity, and because their relatively slow speed would put them in danger of being caught by the very hurricanes they were studying. Aircraft, on the other hand, are almost useless for study of such things as small changes in surface wind velocity.

The Crawford is therefore the first real hope for obtaining precise scientific observations. Diesel-powered, 125 feet long, with fuel capacity for a 6,000-mile range at 12 knots, it can stay at sea a full month, carrying a crew of 12 and eight scientists. It has air conditioning for this summer's three cruises, and sensitive devices to measure minute changes in sea temperature as well as the height of the cloud ceiling at night.

During the day, a motion picture camera photographs once a minute the reflection in a special convex mirror (picture) of the entire sky and a large part of the sea horizon. The camera was developed by William S. von Arx, a physical oceanographer at Woods Hole.

From its record—and a simultaneous recording of air temperature, humidity, barometric pressure, time, and the ship's heading—scientists hope to correlate the condition of the atmosphere with water surface conditions.

• **Best Bet**—There's no assurance, of course, that this season's evidence will provide a total answer as to how and why hurricanes form. Scientists will have to go back next winter, next summer, perhaps another full year, before they can be sure whether their theories are true or way off base.

But, for the moment at least, prospects for this approach seem far more favorable than for the sunspot theory of Dr. Hurd C. Willett of the Massachusetts Institute of Technology and others.

Willett's idea is that during low sunspot activity the northern hemisphere's prevailing westerlies tend to follow a straight, unbending course—but during high sunspot activity (as during the past few years) they tend to wander to the right or left. On this basis, he sees a dip in sunspot activity reducing hurricane incidence on the Atlantic Coast from 1960 to 1990.

Most hurricane researchers won't quarrel with Willett's entire thesis. There could be, they venture, a connection between sunspots and weather—but none is obvious yet. And if there is, they see sunspot activity more as a factor "setting the stage" for hurricane development, rather than one involved in the actual mechanism of birth.

• **What About Now?**—To the millions in the path of this year's storms, all this is intriguing, but of no immediate help. So the Crawford, and various Weather Bureau planes, radar stations, state and local forecasting systems, and weather buoys in the trouble area, are trying to supply as complete a network of weather information as is possible.

The Crawford carries an aerovane to determine air speed and direction, a pyrheliometer to measure solar and sky radiation, radiosonde to measure temperatures, humidity, and pressures of the upper air up beyond 50,000 feet. This will all be radioed to Miami to be fed into the teletype network of data picked up by the various ground stations and ocean-based weather buoys.

By 1958, to supplement present radar tracking installations, the Weather Bureau will start to put in operation 39 new-type units, for which Congress recently voted $3.9-million. A RAWAC (radar warning circuit) will eventually link these together.

Such additions to currently available hurricane tracking facilities will undoubtedly do much to reassure East Coast residents that they'll get fair warning of a hurricane's approach.

Tax Aid for Steel—With Strings

● **Industry's pleas for fast write-off help for much-needed expansion finally get response.**

● **Washington plans to set expansion goals in defense program—but only on some short-supply items.**

● **But it won't be nearly so much as industry wants.**

The steel industry's financial problem is now getting its second look.

The problem, briefly, is this: The industry needs additional capacity; demand for all steel is high, and several types of steel—such as plates, structural shapes, and oil country goods—are in really tight supply. The trouble is that under today's conditions new capacity costs several times as much as it cost to build the great bulk of existing plant that was put in place before World War II. And the new plant would not be far enough ahead in efficiency to counterbalance the high capital cost of new plant, either for replacement or expansion. With the present price structure and with present tax policies, the steel companies claim that they don't wind up with the money for new plants.

Most of the steel expansion in the postwar years was treated as part of the Korean mobilization. The companies were permitted to depreciate part of the cost over five years, and the resulting tax savings solved or deferred the cost problem. But now these tax savings are running out, and emergency depreciation is no longer available.

• **Washington's Move**—When steel prices were raised this month after the strike (BW—Aug.11'56,p24), many companies would have liked to make the increase large enough to reflect costs of production in new plants. But U.S. Steel Corp., the price leader, decided not to do this. It still feels some form of fast amortization is a better answer—and that throws the problem to Washington.

This week it appeared that the government would decide to do something. But only temporary action is in prospect—certainly not nearly so much as wanted by such industry spokesmen as Big Steel's chairman, Roger Blough.

The industry will have to be content with limited reopening of so-called expansion goals in a few lines. This would be done by a ruling that more of certain kinds of capacity is needed for national defense. Then expansion to meet these goals would qualify for five-year write-offs as prescribed by the Defense Production Act.

The Defense Mobilization Board met at midweek to start looking over proposals for new goals for a variety of short-supply products—structurals, plate, tubular forms, to name a few. The fact that such a meeting even was held is evidence that the government is reacting to industry pressure along the line that tax help is needed if new plant is to be provided.

• **Industry View**—Industry officials contend that the emergency fast amortization concession is only half a loaf. They would rather see permanent changes in the tax law. They are disappointed in the results they get from the liberalized depreciation rules provided by the 1954 tax code.

Five-year write-off certificates under the emergency procedure usually give a company anywhere from 35% to 100% depreciation—that is, a company can depreciate only 35% of the cost of a blast furnace in five years, but may get 100% depreciation in five years for a plate mill.

The 1954 tax law permits roughly two-thirds write-off of new plant in half the life of the machinery. Regulations covering depreciation were announced last week. Under previous tax laws, depreciation was at a regular annual rate for the life of the machinery.

The steel industry argues that the new plant and equipment it has bought since most of the Korea-born mobilization goals were filled has cost so much that even the new tax law doesn't permit recovery of costs fast enough. Even before the steel strike and settlement, steel companies—particularly U.S. Steel—sought support from Congress for a more liberal law.

• **Pledge?**—The new wage increases, and the relatively modest price increases that followed, have served only to redouble requests for aid. There's no evidence to support it, but a belief is widespread in Pittsburgh, Cleveland, and other steel centers that management negotiators agreed to the liberal wage increases to end the strike, and held the price increase down, in return for promises from government officials that tax depreciation aid would be forthcoming.

Commonest form of the rumor implies that Treasury Secy. George M. Humphrey made the promise but actually there's no sign of this. Indeed, government officials working on renewal of fast write-off grants figure they still have to convince Humphrey he should withdraw his long-standing opposition before they can go ahead.

• **Strings**—What the Defense Mobilization Board took up this week specifically, was this: reopening goals for structurals, heavy plate, and tubular goods, but with strings.

The Business & Defense Services Administration in the Commerce Dept. is putting these proposals up to Defense Mobilizer Arthur S. Flemming and the board:

• Give fast write-off help only on facilities to produce specific kinds of shapes, forms, and sizes now in tight supply.

• Find out from the steel companies how much of these types of facilities they would build for how much aid—35% or 60% or 90% write-off in five years.

• Find out how much tax help would be needed to persuade industry to disperse its new facilities away from industrial centers.

Before setting specific tonnage goals for the new facilities, defense officials on the Defense Mobilization Board will call in leading steel producers to explain what types are needed most, and get industry to agree to turn out those types before the tax help is granted.

• **Drawing the Line**—Flemming, whose voice is biggest in mobilization matters, is reluctant to go too far in using the Defense Production Act for what is, admittedly, civilian production facilities. He feels a sharp line must be drawn between direct and indirect defense facilities.

Last week, for example, Jones & Laughlin Steel Corp. failed to convince the government that it should get depreciation privileges for its proposed tubular goods plant near Houston.

The line Flemming wants is hard to define. The new J&L plant wouldn't be a gun maker, but as a producer of oil country goods it obviously would add to the country's capacity to provide fuel for war. The new highway program, which is expected to draw heavily on structural steel capacity, isn't a munitions program, but obviously would be crucial in war.

Some Commerce Dept. officials figure that the only alternative to renewed amortization grants is allocation control of short-supply items—and the Administration doesn't want that. Commerce Secy. Sinclair Weeks, previously opposed to a new write-off program, now is backing his subordinates, and has been delegated to try to convince Humphrey.

Big Plum for a Small Airline

CAB drops the rich New York-to-Florida run into Northeast Airlines' lap. But the Boston-based carrier faces some tough equipment and financing problems.

In a decision that has the industry buzzing, Civil Aeronautics Board awarded tiny Northeast Airlines the big prize last week—authorization to fly the rich New York-Florida route for a five-year trial period.

Thus ended, for the time being at least, the long and bitterly fought New York-Florida route proceedings before the board. While the case was being heard, five scheduled airlines, two supplemental carriers, and one freight line sought authorization. And the two carriers already serving the route, Eastern and National, fought equally hard to keep it for themselves.

• **Rounding Out Business**—Northeast, smallest of the domestic trunk lines, currently flies from New York and Boston to New England points and Montreal. Much of its business is seasonal because it flies to seashore and mountain summer resorts. One effect of the Florida award, therefore, will be to give Northeast a year-round business.

While the new route will mean a radical change in the Boston-based carrier's size and shape and give it a shot at the lucrative New York-to-Miami run, it will also pose a mountain of problems.

• **An Equipment Problem**—Northeast, which owns nothing larger than two-engine Convair 240s and has only 10 Douglas DC-6Bs on order for January delivery, will have to compete with the Super Constellations and DC-7s of Eastern and National. Furthermore, both of the entrenched airlines have jets on order. Even if Northeast could arrange the financing and order American jets now, delivery wouldn't be made until months—if not years—after Eastern and National begin flying theirs. A possible solution might be British jet or turbo-prop airliners.

• **The Key**—The financing is a key to the situation. Floyd Odlum's Atlas Corp. owns 51% of Northeast's common stock. The airline, which is still on subsidy, will need solid financial backing from Atlas to set up the kind of operation that the CAB would term successful at the end of five years.

But right now the question in the minds of many airline executives is this: Will Odlum be willing to stick behind Northeast for the long term? A spokesman quoted Odlum as saying: "We have faith in the future of Northeast and we plan to stay with it."

• **Relationships**—The Atlas-Northeast relationship has come up before. When the CAB's examiner in the New York-Florida proceeding submitted his decision last April, he said.

"The existence of interlocking relationships and directorates without CAB approval reflected in this record is sufficient reason for finding that the extension of Northeast [to Florida], with the resulting profit to Atlas, is not in the public interest. In fact, the evidence and charges made here suggest that a board investigation of the Atlas-Northeast control relationship would be in the public interest."

• **Stock Rise**—And the fact that Northeast common zoomed over 30% on sharply increased volume before the CAB decision was announced caused eyebrows to be raised. The stock of other airlines awaiting final word remained relatively steady.

The rise in Northeast's stock occurred despite the new CAB policy of making a decision public as soon as it is reached—to prevent news leaks.

Rumors were circulating in the industry this week that Trans American Airlines (formerly North American Airlines), largest of the nonskeds, which for years has wanted certification as a scheduled airline, was seeking to gain admittance to the select group by acquiring control of Northeast.

• **Shot in the Arm**—Awarding Northeast a chance at the rich route is in line with the CAB policy of strengthening the weak carriers wherever possible to narrow the gap between them and the four giants—American, Eastern, TWA, and United.

Last year Northeast did a total business of $10,120,300 and wound up with a $379,937 profit. The carrier estimated that if it had flown between the Northeast and Florida this year, its revenues would be $31.3-million and it would make a $4-million profit. Northeast also argued that the new route would eliminate its subsidy, which came to $1,572,000 last year.

• **Competition**—But Northeast now also faces stiffer competition in its original territory. At the same time Northeast was allowed into the South, CAB (1) permitted National Airlines to fly to Providence and Boston, (2) allowed TWA and United to tie New York and Boston together on single, long haul flights to the West, and (3) lifted restrictions that required Eastern flights serving Boston to originate or terminate at Richmond, Va., or Charleston, W. Va., or points beyond.

SIDEWALK superintending has come a long way from Rockefeller City's primitive portico of 1938 (above) to the plexiglass peepholes (right) and muraled walls (below) of the House of Seagram. And in doing so, it has created new advertising media.

Jazzed-Up

NEW YORK CITY this year is blossoming out with a new-fangled show that combines the features of art gallery, botanical garden, and guided tour. The scene is almost any part of town where construction is going on. The stage is the construction barrier fences. And the stage is adorned with block-long murals, potted plants, and multilingual loud speakers that keep the spectator aware of whose building he is watching.

The current Manhattan fashion dates back to 1938, when a workman bellowed "Keep moving, buddy," to John D. Rockefeller, Jr., as he stopped to watch excavation work for Rockefeller Center's Eastern Airlines Building. Rockefeller retaliated by ordering a covered portico with plenty of viewing space. A Sidewalk Superintendents' Club was organized, complete with

Barrier Fences Add a Commercial

membership cards, a coat of arms, and a Dutch motto—"The best pilots stand on the shore."

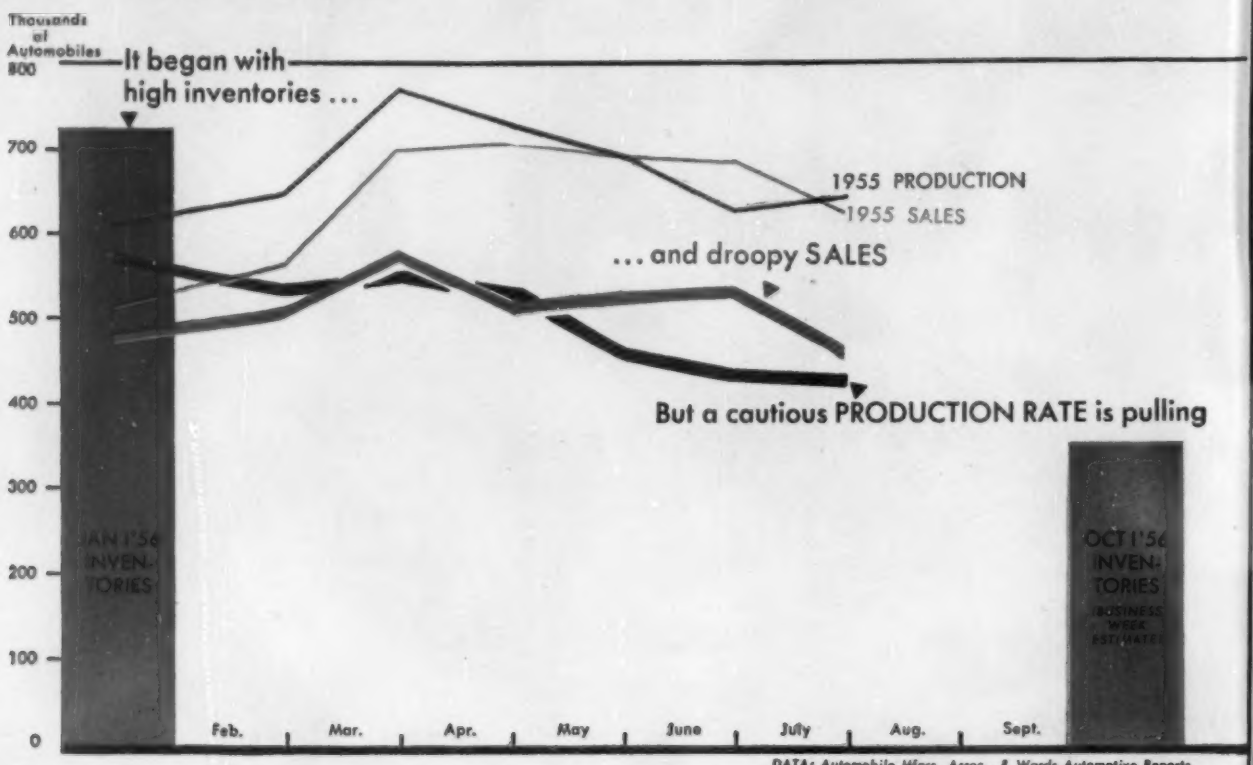
• **Admen's Baby**—Following the success of the Rockefeller Center gambit and an earlier "kibitzer platform" in Des Moines, other builders began to dress up their construction. As thousands of pedestrians stopped to gawk, admen realized that a great new medium was being born. In no time flat, what had once been barriers to careless spectators turned into gigantic displays tracing company history and touting company products.

All this has reached a natural climax with the bronze House of Seagram now going up on Park Avenue. The barrier fence contains a 1,000-ft. garden mural (to be repainted to keep up with the season), semi-spherical plexiglass peepholes, and a 12-ft. model placed so that the building is rising behind it. But that isn't all. Batteries of loud speakers squawk out recorded multilingual descriptions of the building and the site. The English recordings are done by such notables as Hy Gardner, Steve Allen, and Faye Emerson.

• **New York Specialty**—Is the rest of the country keeping abreast of this trend? With a few exceptions, the Madison Avenue flamboyance is confined to New York. Los Angeles has one fence with wired windows and cartoons; Denver's Courthouse Square has a grandstand; and a new Houston building had a Sidewalk Superintendents' Club. But the word from most cities echoes that wired by a Detroit reporter. The fences there, he says, "are all plain board (or is it bored?)."

VIEWPORTS staggered by height show Girl Scouts how their building is progressing.

The '56 Auto Year



DATA: Automobile Mfgrs. Assoc., & Words Automotive Reports.

Potent Pitch for 1957 Brews

The automobile industry, all set to launch its new model year, is looking toward 1957 sales of from 6.5-million to 6.8-million cars. That's between 500,000 and 1-million more cars than the auto makers expect to sell in the whole of the 1956 model year. And it is between 400,000 and 700,000 less than the 7.2-million passenger cars that Detroit sold in its boom year of 1955.

Two powerful factors lie behind this promise for 1957:

Inventories are being whittled away rapidly. Late next month, when the first 1957 models begin appearing in the showrooms, dealers should almost be out of 1956 cars.

The end-of-September inventory is forecast at approximately 350,000—a neglible number when spread among 40,000 dealers. Dealers' sales have been keeping more in line with stocks lately due to the summer's severe production cutbacks and to the well-publicized possibility of 1957 model price increases.

"New-model stimulus"—considered the industry's most potent pitch—will be strengthening the sales push for 1957 models. More models than ever before are being completely changed, from the wheels up.

• **Counter-Forces**—The predictions of the 1957 model market now being made are curbstone estimates, not the firm estimates of the industry's official forecasters. The forecasters aren't yet ready to make their predictions. They're delaying because two counter-pressures—as well as the lessons they learned from this year's sales slump—have worn away the old high confidence of many in the industry. They're worried because:

Price increases probably will be greater than popularly supposed. One industry insider says the boost may run from 5% to 7%. For a low-price car, this means $125 extra on the price tag; for a medium-price model, it would mean an extra $200. Since personal savings are running at a lower rate this year than in the industry's boom year of 1955, privately there's feeling among some forecasters that the higher prices may depress the auto market.

Credit is tight and it's about to get still tighter (page 23). This accounts for the greater part of the industry's trepidations about 1957. General Motors' executives believe even more firmly than they did a few months ago that the Federal Reserve Board already has tightened credit too much. The pinch, they say, could do great harm to sales of new models in the last quarter of this year, and now it seems there's a chance that dealers won't be able to finance all their anticipated purchases of new cars from the factories.

So fears for the near future are loose in Detroit, despite all the hullabaloo that's about to be launched along with new model introductions. Meantime, though, Detroit is patting itself on the back for one achievement in preparation for the new models: the reduction of 1956-model inventories.

I. Preparing the Way

This is indeed an achievement; dealers stock, more than 900,000 in the spring, will be close to vanishing point by the end of September. The slice will have been made in the face of a spotty market—and at the cost of laying off several hundred thousand auto workers as production was cut back.

• **Planners' Troubles**—The assurance of

The '57 Auto Year

inventories toward a level that will make a promising start for

These makes . . .	. . . with this* first half sales record (1956 vs 1955) . . .	. . . will show these changes . . .	. . . and these new model introduction dates
CHEVROLET	+ 6.45	Major appearance change	Mid-October
FORD	—10.2	New body	Late September
BUICK	—22.9	New body	Early November
PLYMOUTH	—25.1	New body	Late October
OLDSMOBILE	—18	New body	Early November
PONTIAC	—27.6	Major appearance change	Early November
MERCURY	—19.9	New body	Late October
DODGE	—22.2	New body	Late October
CADILLAC	— 0.3	New body	Early November
CHRYSLER	—26.7	New body	Early November
DE SOTO	—15.1	New body	Late October
STUDEBAKER	—16.7	Minor appearance changes	Late October
NASH	— 9.9	Minor appearance changes	Mid-October
LINCOLN	+41.2	Minor appearance changes	Late October
HUDSON	—20.6	Minor appearance changes	Mid-October
PACKARD	—33.6	Future uncertain	—
IMPERIAL	—21.7	New body	Early November

*Registration — percentage change

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Hope Among the Auto Makers

low inventories is threatening to split the personalities of the Detroit planners. From 1954 to 1956 they followed traditional planning principles. In the fourth quarter of 1954, production was just below 1.4-million. Came car-hungry 1955, and the factories never were able to catch up with demand, though they turned out more than 2-million cars in both first and second quarters.

Then, expecting 1956 to be as good, or almost as good, as 1955, the planners determined not to be caught again. They rolled out 1.9-million cars in the last quarter of 1955. The market turned sour, and the industry entered this year with 725,000 cars in dealers' hands, compared with about 360,000 at the start of 1955.

So what are the planners to do in the fourth quarter of this year? Should they push production high because favorable factors point to a big year in 1957? Should they play safe and create a mild scarcity?

• **Answer**—The industry seems to be taking the middle course. Production is programed at around 1.6-million cars for the quarter.

But even this output may not be achieved. Spot shortages of steel have been troubling the auto makers—and will continue to do so. And production is always slower than usual when a wide range of changes is incorporated in a new model run—it takes the production men longer than usual to iron out the large number of kinks.

II. The New Year's Pitch

When the industry does crank up to sell its 1957 models it will make some distinct changes in its sales pitch. The outstanding one—as presently planned, at least—will be a de-emphasizing of horsepower. Horsepower in the 1957 models will be higher than in 1956 cars (because, the companies insist, you need the power for performance). But advertising campaigns won't be built around this fact.

• **Economy vs. Power**—One factory even says it will not disclose the power rating of its cars—but there's no telling what it might do if the competition doesn't play along.

Chevrolet, which sprang to its commanding sales lead with a "hot" car theme, is going to the opposite extreme. Its new approach will stress economy. Chevrolet's new General Manager Edward N. Cole, has decided that the public is keeping interested in economy. And Chevvy so dominates the auto market that the competition must follow, at least to some degree, any advertising pitch it adopts.

Safety, too, will get fresh emphasis, despite the fact that Ford Div. tried it with less success than it hoped for in its early 1956 advertising.

• **Style**—This time, Ford will put its major emphasis—at least at the start—on styling. Fords and Mercurys for 1957 are radically re-styled, representing what Ford believes is the styling trend of the next few years.

Chrysler's main sales emphasis for 1957 will be on Plymouth. Pres. L. L. Colbert has told his field sales force, "We'll make the sale of Plymouth the spearhead of our whole promotional program."

The reason is clear enough: No auto maker can progress without a volume car.

Chrysler's efforts to split off the Plymouth, and establish separate dealers for it has been dragging. So the field force—which actually represents Chrysler, De Soto, and Dodge divisions—has

been told to give Plymouth equal or greater emphasis than the cars of the franchising divisions.

III. Shapes for 1957

Production of the new models has already begun in one factory—Lincoln's. Before the end of this month, all Chrysler divisions, plus Ford and Mercury, will be down for model change-over. GM divisions will start next month.

The model change-over period will probably be longer this year than last, not only because of the number of new models but because of the extent of the changes (BW—Jun.30'56,p24).

• **Lower**—All cars except Lincoln, Cadillac, and Imperial will use 14-in. instead of 15-in. wheels. All will be lower. Those without all-new body shells will be able to drop only an inch or so in height, but the redesigned cars will drop as much as five inches.

• **Glassier**—Hardtop production will be expanded. Buick, reportedly, will discontinue production of four-door sedans, and sell four-door hardtops instead.

Sharp changes will come in the model lines. Chrysler Div. probably will add another model, priced below its present Windsor, to compete with Buick's Special. Both Ford and Mercury divisions will readjust their line-up of cars in preparation for the appearance, as a 1958 model, of the "E" car. One model of this new car will be priced just above the Ford line and another will come just below the Lincoln.

• **Smoother**—Chrysler will make most of the changes in suspension. All its cars will use a torsion bar at the front end and, in the higher-priced models, a type of ball-joint suspension, pioneered by Lincoln three years ago. Cadillac's El Dorado Brougham, whose introduction has been delayed until February, probably will have an air-oil suspension system.

• **Sleeker**—The lines of those 1957 models fitted with new body shells will be so low that the floor will be depressed below the door sill. This way, inside dimensions will remain comfortable despite lowering of the roof. The center section of these cars' frames will be spread out so that the body drops between the frame rails.

• **New Systems**—Changes under the hood, in addition to higher compression and higher horsepower, will be new types of cleaners—smaller and flatter to permit the stylists to lower the hood. The ultimate change in fuel distribution—the direct fuel injection system—may appear on the El Dorado Brougham. But it's unlikely to be put in 1957 model volume cars—unless Studebaker can make a mid-model-year change to the Daimler-Benz system for which Curtiss-Wright is negotiating (BW—Aug.11'56,p26).

Coal Ship Deal Takes Shape

Maritime Administration examiner O. K.'s industry's charter of 30 Liberty ships—with reservations. Now ship operators are more worried than ever.

The coal industry is a step nearer its goal of assuring cargo space for all the coal it can sell overseas. With some conditions yet to be argued out, a Maritime Administration examiner approved a request for 30 laid-up Liberty ships from American Coal Shipping, Inc., new $50-million corporation formed by coal producers, coal-hauling railroads, and the United Mine Workers (BW—Jul.14'56,p34).

However, the established ship operators haven't given up the fight. The American Tramp Shipowners Assn. says it will carry the attack into the courts if ACS can't be stopped at a lower level. "Foreign ships can operate at around $27,000 cheaper a month than we can, mostly because of lower wages," says a disgruntled tramper. "It's hard enough now to compete with them at a profit—what happens when ACS moves in?"

The big subsidized companies—United States Lines, American Export, Moore-McCormack—are worried, too. They told the Maritime Administration examiner, C. W. Robinson, that the coal industry would use its shipping company as a rate-breaking device and would also cut into other business.

• **Conditions**—Opponents of the newcomer aren't mollified by the conditions that Robinson attached to his recommendation of approval:

• The 30 Liberties from the government's reserve fleet would be chartered for only one year. Shipping people thought a renewal might be virtually automatic and, said one, "Thirty more ships on the seas could ruin us." ACS isn't happy, either—it wants an indefinite charter.

• The Maritime Administration would fix minimum rates, high enough to see that ACS didn't operate at a loss.

• ACS would be permitted only to haul coal, returning empty, unless the federal board specified other commodities that could be carried. ACS argued for the right to bring back bulk ore.

• ACS would have to pay the cost, estimated at around $150,000 per ship, of breaking the Liberties out of mothballs and laying them up after use. Under a new law, the Maritime Administration is empowered to pay such costs, and ACS will argue strongly against footing a $4.5-million bill.

Arguments are being filed on both sides now, and final decision by the Maritime Administration is expected by mid-September.

• **Knockdown Fight**—It's a head-on clash between two groups who feel their business interests are threatened.

Backers of ACS pointed out that American-flag operators last year carried only about 5% of coal exported from the U. S. and are now handling only 1% of the tonnage. They say there's a worldwide shortage of cargo space for coal; they suggest, too, that present freight rates are excessive.

ACS has bought only one ship, the Chian Trader, for October delivery at a price of $775,000. This Liberty ship purchase is a token, in order to meet government charter requirements. ACS testified that it is serious about going into the shipping business, that it would find or build ships elsewhere if the 30-ship charter didn't go through.

John L. Lewis, UMW president, chided the opposing ship operators for being "afraid of competition." National interests must come first, he said; if coal mines had to cut operations for lack of ship cargo space or because of excessive ocean freight rates, he said the pinch would be felt far beyond the coal-mining towns.

• **Tramp Operators**—At first, shipping people were skeptical about the coal industry's intention of going into business on the high seas. They regarded ACS is merely a club over freight rates. Now they're less confident.

Fundamentally, they resent a challenge to a business that has only lately turned profitable. Tramp ship operators recall many lean years before they were able to jack up prices in the postwar flood of coal to Europe. They moan about an impending break in prices, yet they have enough coal booked to keep prices firm for several months. Prices are holding at about $9.60 a ton, a couple of dollars below the highs of a month ago, but no one can say how much of this decline is seasonal, how much came from the threat posed by American Coal Shipping.

The Tramp Shipowners Assn. says ACS hasn't proved any shortage of ships to meet the export demand. Pres. James B. Stuart claims 51 ships are available between now and the end of the year for coal cargo. "The truth of the matter is," he says, "that the coal companies aren't even in the market. Right now there isn't a single company bidding for a coal shipment. We have empty ships we can't fill."

New Frontiers for Buried Treasure

Far off Louisiana's famed Gulf Coast, precious oil lies trapped beneath the deep, green waters. In this area Sinclair Oil & Gas Company, jointly with three other companies, has increased its lease holdings to more than 37,000 acres for offshore operations.

Offshore prospecting and drilling is only one example of Sinclair's relentless search for new oil sources. Last year the Company drilled a total of 617 net wells in the United States and Canada alone. In Venezuela, a Sinclair subsidiary increased its daily average net production by 22 per cent. In Italian Somaliland, the results of extensive seismic and surface geological exploration were sufficiently encouraging to plan drilling this year in a concession covering 59 million acres, in which Sinclair has a 50 per cent interest.

All this is part of the Company's aggressive efforts to expand production and reserves. In 1955, the net result was an all-time high record in average daily net production of crude oil and other liquid hydrocarbons—155,861 barrels daily against 144,887 barrels daily in 1954, a 7.5 per cent gain.

Sinclair continues to accelerate its progress in crude oil production. Over the last ten years, Sinclair's rate of gain in domestic crude production has been sharply higher than that of the oil industry generally.

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Auto Dealers Win

Congress backs their fight against "one-sided" franchise deals, but the new law is watered down.

After a lot of scrapping, automobile dealers finally got some Congressional backing in their fight against what they consider one-sided franchise deals (BW–Jun.30'56,p81). However, the bill that Pres. Eisenhower signed last week is so watered down that it leaves a question as to how much the dealers really gained. Some observers feel that it may wind up no more than a political gesture toward the 40,000-odd auto dealers.

The new law gives a dealer the right to sue an auto manufacturer in federal court for damages if the manufacturer fails to act in "good faith" in carrying out the terms of a franchise contract, or in canceling or refusing to renew a contract.

• **Is It Constitutional?**—The legislation stems from a Democratic inquiry into auto marketing problems, in which the big car manufacturers were accused of often coercing dealers to take cars, parts and accessories they do not want or need. Despite recent adjustments by several manufacturers of their dealer contracts, the sponsors of the legislation argue that dealers need a federal right—independent of their contract—to sue for damages to protect them from arbitrary termination of their contracts. Auto dealers—primarily the National Automobile Dealers Assn.—backed the bill, and the auto companies opposed it.

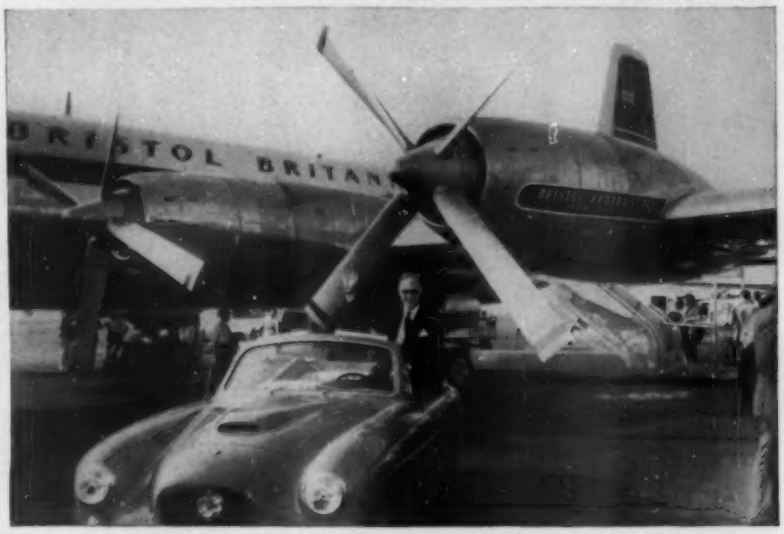
Eisenhower signed the bill, even though he said it would ordinarily be considered "an unwarranted intrusion by the federal government into an area traditionally reserved to private enterprise." The President, in effect, doubts the courts will uphold the law.

• **Revisions**—Even if the law is held Constitutional, under its provisions dealers will have a tough time proving a manufacturer's "bad faith" and collecting damages.

Sen. Joseph C. O'Mahoney (D-Wyo.) originally sponsored legislation requiring "good faith" performance only by the manufacturer, and would have allowed recovery of twice the amount of actual damages suffered by a dealer. O'Mahoney, faced with Republican objections, actually rewrote his bill on the Senate floor during debate. The revised version provided that a dealer also must exercise good faith under a contract, limited recovery of damages to those actually sustained, and specifically made lack of good faith on the part of a dealer a defense against a dealer's suit. With these changes, the bill passed the Senate in June, by a vote of 75-to-1.

In July, the House made further changes. Primarily, it tightened up the definition of "good faith" so that it means the duty to refrain from coercion or intimidation, and added that recommendation, persuasion, or argument do not show lack of good faith. The Senate voted to adopt the House changes, and on July 25 cleared the bill for White House action.

Despite the changes, the National Automobile Dealers Assn. says it's satisfied with the new law. The auto makers are taking defeat gracefully. Ford says it shares the President's doubts about the legislation. Other manufacturers feel that the real teeth in the original bill have been pulled, and that they can live with the final version.



THE BRITANNIA arrives on the first leg of a flying sales trip. It's Britain's . . .

Challenge to the Jet Plane

The Bristol Britannia 100, currently the world's largest, fastest, and quietest turbo-prop commercial airliner taxied into New York's Idlewild Airport this week at the start of a cross-country tour.

Its maker, Bristol Aircraft Ltd., hopes to sell the "whispering giant" to American airlines in the face of a growing trend toward straight jets.

In a short speech before taking the press up for a flight, Peter Masefield (above), managing director of Bristol, staunchly defended the plane and its sales potential. He said:

"It must not be looked at as direct competition to the jets, but rather as a complementary plane. There is a market for both. The advantages of our craft are that it's more economical and therefore better suited to tourist operation; it's far quieter; it can operate off smaller runways; and it's here. The jets will not capture the entire market any more than we will."

• **Off Schedule**—Unfortunately for Bristol, the Britannia was delayed by "bugs" for about two years. Had the plane come along on schedule, there's little doubt but that orders would have tumbled in.

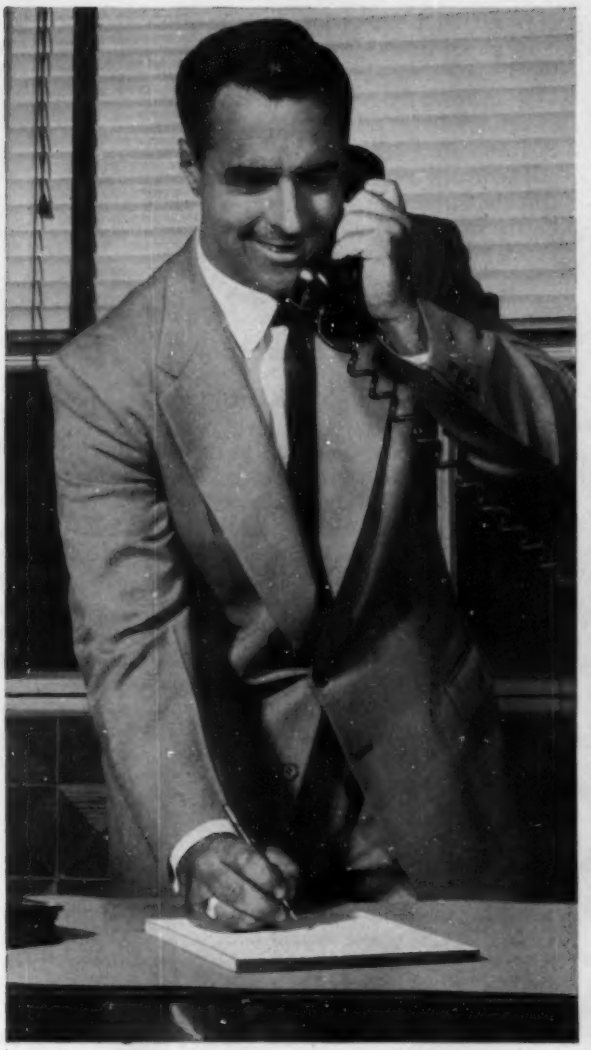
The Britannia seats up to 92 passengers in tourist configuration and cruises at 360 mph. A later version, the 300, will be stretched out and will carry as many as 132 tourist passengers at speeds up to 400 mph. Still a third version, the 310, will be capable of flying the North Atlantic in both directions nonstop. This should go into service for BOAC and El Al Israel Airlines next year.

Two years ago, these features would undoubtedly have been strong selling points for British Aircraft—even though British planes are frowned on by Americans as slow on delivery, and costly to maintain and repair.

Today, the story is different. U.S. carriers are looking ahead to unbuilt but promised mass-produced American turbo-props that should prove to be faster than the Britannia, and to 600-mph. jets.

As one airline representative said, "This is a sweet ship and maybe we'll buy it. But it seems to me it might be like buying a cream-colored elephant due to turn white in a year."

As for the Britannia's flying qualities, most reporters agreed with Masefield that, "It flies like an old gentleman's airplane, which is what you want in a transport."



Salesman calls ahead for appointment

. . . is welcomed without waiting

Telephone call helps close $9000 sale

Here's how it happened, as told by the sales manager of the Geo. S. Thomson Co., industrial supplier of Phoenix, Arizona:

"First thing one morning, one of our salesmen called a customer in another city to ask for an appointment. It was a good thing he called, for the customer was about to leave town for several weeks. The salesman left that morning, saw his customer that same afternoon, and closed a $9000 sale.

"In this case the call cost $1.55. And in every case we find that calling ahead for appointments pays for itself many times over."

• • • •

Whatever you make or sell, you can prove to yourself that the planned use of the telephone pays off in profits. We'd like to give you some specific suggestions how. Just call your Bell Telephone Business Office.

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Here are some examples:

Baltimore to Philadelphia	55¢
Cleveland to Pittsburgh	60¢
Dallas to St. Louis	$1.35
Phoenix to San Francisco	$1.40
Los Angeles to Washington, D.C.	$2.50

These are the daytime Station-to-Station rates for the first three minutes. They do not include the 10% federal excise tax.

Call by Number.
It's Twice as Fast.

In Business

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Two Kentucky Steel Companies Are Looking for New Owners

Two steel companies in Kentucky have bitten the bluegrass in the past week:

• Stockholders of Newport Steel Corp. (more than 98% owned by Louis E. Wolfson's Merritt-Chapman & Scott Corp.) approved sale of the company's assets to Acme Steel Co. of Chicago. However, a minority stockholder threatens to block the sale by court action.

• Directors of both companies approved acquisition of Green River Steel Corp. of Owensboro, Ky., by Jessop Steel Co., maker of specialty steels.

Both Newport and Green River have had rough going. **Two years ago, Newport ran up a $319,299 loss on sales of $23-million;** the year ended Oct. 31 was better—a net of $626,287 on $42-million sales. But Merritt-Chapman wants to get out, retaining only the corporate shell—and a probable tax loss carry-forward.

For Newport's assets, Acme has agreed to pay $16,450,000 if (1) the deal can be closed by Sept. 14 and (2) if the assets are audited at "not less than $23-million" as of June 30. Boston lawyer Leon S. Shelby, opposing the sale, claims the assets are worth $50-million.

If the sale is not closed by Sept. 14, Newport is obligated to pay Acme $500,000 damages.

Green River is a Korean War baby (BW—Jun.27'53, p88) that found it hard to break into the steel business on a shoestring. Last year, it lost $574,137 on sales of $10.7-million. It got a certificate of necessity in 1950, started one of its two electric furnaces and a blooming mill in 1953, but has had a tough time getting capital.

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Central and Pennsy Get Recruits For Steep Rise in Pullman Fares

The East's two biggest passenger railroads, the New York Central and Pennsylvania, went ahead and asked for major increases in first-class passenger fares (BW—Aug.4'56,p31). Then they, and other Eastern roads, told the Interstate Commerce Commission they expected to petition shortly for a freight increase on top of the 6% that was awarded last March.

In all, six roads asked for a 45% Pullman boost and a 5% coach rate increase. Two others asked only for the 5% jump in coach fares. Of the four who joined the principals in asking for the Pullman increases, the Pennsy holds large blocks of stock if not effective control in two: the Norfolk & Western and the Pennsylvania, Reading & Seashore Lines. The Central controls a third, the Pittsburgh & Lake Erie. The remaining railroad is the Chesapeake & Ohio, formerly controlled by Robert R. Young, now chairman of the Central.

The two lines asking for coach increases are the Reading and Lehigh Valley. The Pennsy directly owns 25% of the LV and indirectly controls another 18%.

In giving reasons for the big boost in Pullman fares, the Pennsy and Central said in a joint statement: "A 45% increase for first-class fares approximates our costs of operation, provided inflationary factors do not force costs too much higher."

The roads cited losses in revenue during the steel strike and declining net, due to increased costs, as reasons for the freight increase. ICC hasn't indicated how it will act on either petition.

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Bank Accused of Favoritism In Universal Oil Stock Sale

Guaranty Trust Co.'s role in selling Universal Oil Products Co. stock for the Petroleum Research Fund (BW—Aug.11'56,p36) is challenged by a potential buyer of the shares. At midweek, Filtrol Corp. of Los Angeles, maker of refining catalysts, filed a petition in New York state court to remove Guaranty Trust as administrator of the fund.

Filtrol charges that the bank has discriminated in favor of other would-be purchasers, failing to set up a "fair, impartial, and objective bidding procedure."

Guaranty Trust administers the fund for the benefit of the American Chemical Society. Most of the fund's assets are the $50-million worth of Universal stock, and the bank wants to diversify them.

• • •

Business Briefs

The billion-dollar club gained a new member: Procter & Gamble Co., whose annual sales went $38-million past the billion-mark. P&G is the 34th company to cross that line (BW—Apr.14'56,p154).

And a half-billion-dollar order was received from the Air Force by Boeing Airplane Co., for B-52 bombers.

Pres. W. W. Sebald of Armco Steel Corp. announced his retirement to vice-chairmanship of the board. He started with Armco as office boy 50 years ago. His successor is 61-year-old Executive Vice-Pres. R. L. Gray.

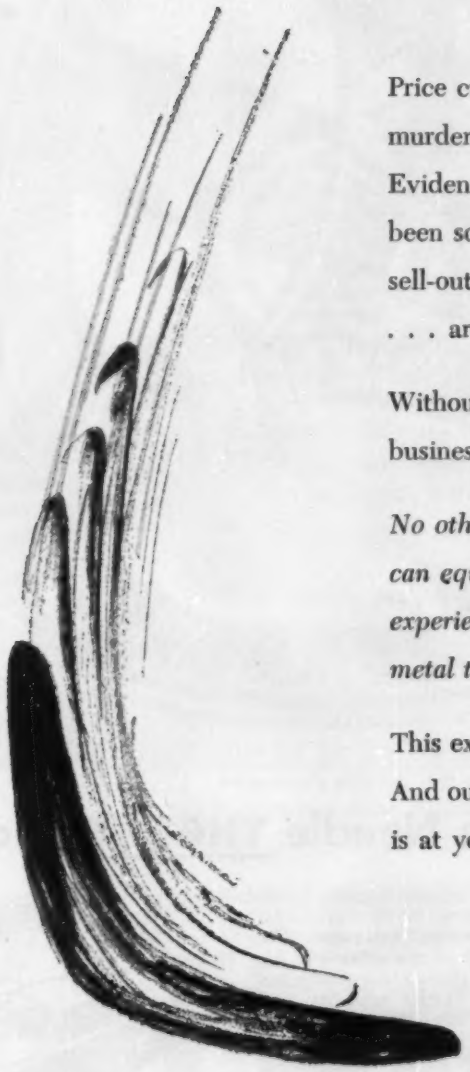
Aluminum Co. of Canada plans a power development at Chute-des-Passes, in northern Quebec, that will help raise annual capacity of aluminum ingot to 1-million tons by 1960. It was 650,000 tons last December, is scheduled to be 762,000 tons by yearend.

Ten-million meals a year are called for under a Defense Dept. contract with Knott Hotels Corp. (BW—Aug.11'56, p83) to operate all food concessions in the Pentagon.

Custom blending of octane rations from a single gas pump (BW—Mar.3'56,p32) is being extended to 290 Sun Oil Co. stations in Florida and southern Georgia.

Curtiss-Wright Corp. reaped its first harvest from its new tie-up with Studebaker-Packard Corp. (BW—Aug.11'56,p26). Its subsidiary, Utica-Bend Corp., formed from offshoots of S-P, got a $16.5-million Army contract for Dart anti-tank missiles.

A simple case of murder



Price cutting at the retail level is becoming murderous for many manufacturers. Evidence: Never in our history has there been so much buying — yet mergers, sell-outs, recapitalizations . . . even obituaries . . . are reported every day.

Without close, constant attention to costs, booming business will become a boomerang!

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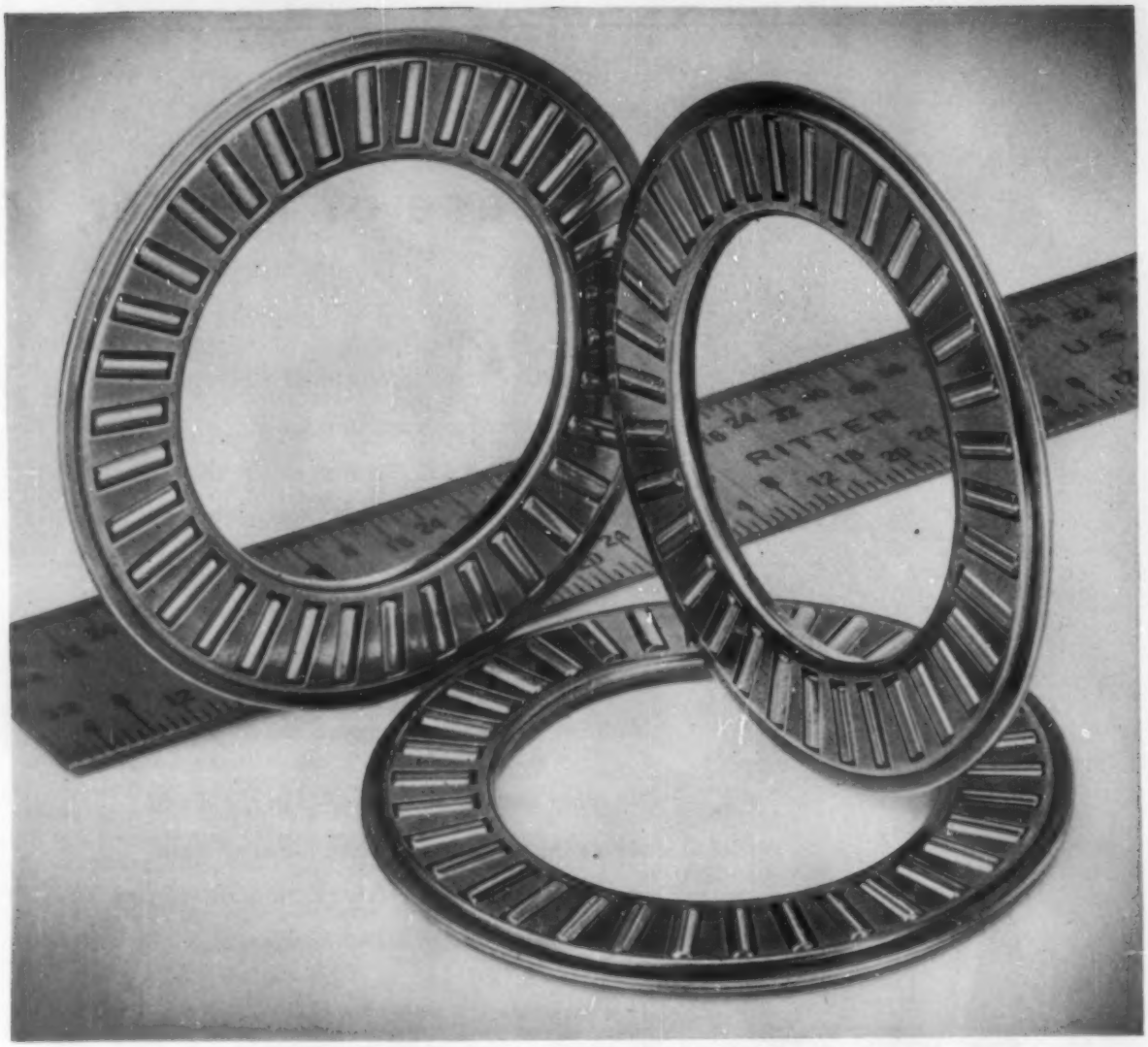

Here's the **NEW** Torrington Needle **THRUST** Bearing!

Now designers have available a *needle bearing* exclusively for heavy *thrust* loads.

This compact Torrington Needle Thrust Bearing—only .0781" in cross section—is no thicker than an ordinary thrust washer. Yet it brings all the advantages of anti-friction operation at low unit cost for many thrust applications.

Two mating retainer halves, highly accurate steel stampings, are securely joined to form a self-contained unit closed on OD and ID. The bearing can run directly on adjacent parts, hardened to act as races, or on economical hardened and ground flat races. The bearing is piloted on the retainer bore.

In any thrust application where low unit cost, high thrust capacity and compact design are primary factors, consider the Torrington Needle Thrust Bearing. Services of our Engineering Department are available to assist you with design and application.

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WASHINGTON OUTLOOK

WASHINGTON
BUREAU
AUG. 18, 1956

Politicians will work the "pocketbook" issues hard, from now on to Election Day, Nov. 6—such things as employment, unemployment, wages, farm prices, individual income, profits, credit, etc.

Note the Democratic line. It is an attack on the prosperity and progress, with peace, theme of the Republicans. Prosperity is called an "illusion," a "myth," and "phony," with policies that favor the few against the many.

The GOP's answer will come next week, when the spotlight switches from the Democrats at Chicago to the Republicans at San Francisco. They will be detailing what Eisenhower's business policies have achieved in terms of economic growth and how the people have benefited.

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Politicians will use figures that back up their arguments. They'll use the same figures, to arrive at conflicting conclusions. But while you watch, listen, and read you can have some facts at hand. Official figures are available. They show how things have gone under Eisenhower, compared with the Truman period.

Democrats will emphasize the unemployment rise. The jobless today number about 2.8-million, against some 1.7-million in 1952, Truman's last full year. In addition, Democrats will hit spot unemployment, in Detroit and in such farm equipment centers as Rock Island, Moline, and Davenport.

Republicans will emphasize jobs. Some 66.7-million people are at work. That compares with 61.3-million in 1952. Today's figure is an all-time high.

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Then, there's the inflation issue. Here is what has happened.

In Truman's last four years, the consumer price index showed a rise from 101.8 in 1949 to 113.5 in 1952. That's about 12%.

The trend under Eisenhower held very level until recently. The index was in 114.4 in 1953, the year the Korean War ended. In 1955, it was 114.5. Now it is the highest it has ever been, 116.2 and rising.

Democrats will hit this rise hard, in an effort to poke a political hole in the Eisenhower claim of maintaining a stable, but growing, economy.

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Some figures on the individual income side:

The average weekly wage in factories now is $78.60, compared with $67.97 in 1952. That's in terms of current dollars. When you measure prices at the 1955 level and figure the average wage against this, the result is a weekly wage today of about $78, compared with $68.59.

As for hours, the 1952 average was 40.7 per week. The average today, with peace, is 40.1.

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The supply of credit will become more and more involved, as Federal Reserve credit policy gets tighter (page 23).

The Democratic argument is that the Administration has followed a policy of raising interest rates, to the benefit of big investors, and at the expense of taxpayers and borrowers, especially small business borrowers.

The Administration comeback will be that its fiscal policies have restrained inflation and that the increased cost of paying interest on the national debt is more than offset by what consumers save on prices.

WASHINGTON BUREAU
AUG. 18, 1956

Both sides will agree that taxes should come down. The controversy will be over who benefited from past cuts and who should get future cuts.

The Democratic promise is to raise personal exemptions. This sort of cut gives a maximum of relief to low-income individuals. And they attack the liberalized depreciation policy of Eisenhower, along with the relief from the double tax on dividends, as favoritism.

The Republican side is that the tax incentives given business have influenced the tremendous economic growth of the past few years and have made extra jobs available to the growing labor force.

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The rise in profits will come under fire. The nub of this wrangle will be whether the worker's or the investor's share of the rising economy has been out of proportion. The facts: Under Eisenhower, profits of corporations have climbed 22%, at the same time income paid to labor has climbed 21%.

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The GOP finds the farm argument harder to answer.

Here's what the official figures show: In postwar 1947, the index of what farmers received measured against what they pay was 115. By 1952, it had dropped to 100. It was down to 84 last year and to 80 in January this year. Today, it's 86, reflecting the recent uptrend.

As to the political potency of the issue, both sides are very unsure. The Democrats have renewed their promise of high, rigid federal price props, claiming it offers farmers more than the lower Eisenhower support levels, backed by direct payments for acreage cuts in surplus crops.

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Labor's role in the campaign still is in doubt. In recent times, the big side of union backing has gone to the Democratic Party. It may happen again. But there's lots of talk about "neutralism" this time.

Labor at Chicago split between Democratic contestants—Reuther of the Auto Workers for Stevenson, McDonald of the Steelworkers for Harriman. George Meany, the head man, held back. George Harrison of the Railway Clerks, for Harriman before the convention, switched to Stevenson.

The union showdown will come after San Francisco. The decision will be made by the executive council of the AFL-CIO. Unless it plugs one party or the other, individual leaders will be acting on their own in stands taken.

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There's pulling and hauling over the GOP labor plank being hewn out at San Francisco. Eisenhower's labor spokesman, Labor Secy. Mitchell, wants a "liberal" policy. Example: He favors opposition to so-called state right-to-work laws. But he's strongly opposed within the Administration. Most of Eisenhower's advisers think the prosperity record will bring in rank and file union votes, without making any controversial concessions.

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The odds on November are holding level. As the GOP started flocking into San Francisco to make its nominations, Eisenhower's position as the favorite held fast. And Republican hopes were on the rise that a second-term win would swing Congress to the Republican side.

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it's really an amazing chemical bringing you wonderful new textile fibers, plastics, and rubber

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TOP PACKAGING TEAM GAINS QUICK CONSUMER ACCEPTANCE FOR NEW E-Z POP INSTANT DRINK

Top-Pop and Milprint specify new Alcoa Wrap ... produce sparkling, flavor-locking aluminum foil package that sells on sight

COMPETITION WAS MIGHTY STIFF... The Top-Pop Products Company knew they had tremendous competition to meet in introducing their E-Z Pop Instant Drink Mix. In an "impulse" item with huge volume turnover, their package had to do more than keep flavor in and moisture out . . . it had to stop traffic . . . it had to have powerful sales appeal!

BUT THEY MET IT... So, Milprint, Inc. went to work with new Alcoa® Wrap. These brilliant, eye-catching packages were the result. Did they work? Consumer surveys in the test markets gave E-Z Pop a decided edge over competition. In fact, proof of success is the planned opening of many new markets for E-Z Pop in 1956.

What's your packaging problem? Does your item need powerful punch for quick volume sales, guaranteed protection for longer shelf life, or both? Let your converter show you how new Alcoa Wrap can fit into your packaging plans. Call him

You're always ahead with Alcoa ... greatest name in aluminum

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ALTERNATE SUNDAY EVENINGS

The Flood That Drowns the Boss

The higher a man climbs up the executive ladder, the more he has to read. How to cope with this added load is one of management's continuing problems.

Many a corporate executive returning from vacation this week found his desk inundated with reading matter. The flow of memos, reports, correspondence, and publications had always washed out a good chunk of his working day; during his absence it had become a deluge.

Perhaps, tearing into the ocean with freshened zest, he managed to throw out nine-tenths of it, leaving only the really essential to be dealt with. If so, his vigor was unrewarded, for next day the flood had returned like the tide. More reading matter—necessary and unnecessary—continued to pour in.

In all truth, there's little likelihood that the modern manager will ever catch up with his back reading. He may be able to control the flow a bit more efficiently, but he'll never be able wholly to dam it up.

By the very nature of his job, the top executive has to assimilate as much information as he can. If his intake slows down, or reaches him in a form whereby he can absorb more in less time, he promptly expands his field again. Some facts he can get by word of mouth, but most of them have to come from reading. So the executive, whirling the treadmill of reading, wonders wistfully how to escape—and how the other fellow is doing.

• **Survey**—To find the answer to how executives meet their reading problems, BUSINESS WEEK reporters asked top managers in many cities what they read, and when, and for how long. To a man, they were either fighting the problem or had glumly learned to live with it; none had found a solution.

Generally, the higher a man climbs up the management ladder, the broader his reading interests become. That emerged from several surveys, as well a study of the reading habits of 1,600 management men just completed by The Reading Laboratory, Inc., a New York outfit specializing in training people to read. The top man usually prefers to poke into general management theory and philosophy in quest of ideas, rather than poring over the "how to" material that so often fascinates the young man on the way up.

The major executive rates his reading on both general topics and on business subjects as vital. But in dealing with a concrete problem, he is likely to get his key facts by talking to other businessmen. Even so, the reading serves as essential background.

• **The Schedule**—The composite executive's reading day breaks down about like this:

At the office, he devotes three hours to reading, mostly company reports and memos. At home, he spends an hour and a half on business and general reading, which goes on into the weekend. On top of this, he consumes 10 books a year, preferring, in this order, books about business, fiction and adventure, hobbies.

A firm pattern is elusive, but the average executive seems to give his morning newspaper a sharp-eyed, 20-minute going over, either at home or on the commuter train. The front page gets first attention, fast but thorough, then he turns to the business section. Few overlook the sports section. Says one Boston executive: "The stock market could crash but I'd still have to get the word on the Red Sox before I'd read about the financial situation."

Exceptional cases get their reading started very early. Howard J. McGinn, president of Eaton Mfg. Co., Cleveland, puts in a half hour of reading—before he gets up—on his favorite subject, metaphysics. "It fits me for the day," he says.

• **Screening**—Once he reaches the

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PAPER BOARD MILLS: BOGOTA, N.J.; NEW HAVEN, MONTVILLE AND VERSAILLES, CONN.; READING, PA.; STEUBENVILLE, O.; WHITE HALL, MD.

"Next to the dog, the wastebasket is man's best friend."

office, your executive scans a daily business newspaper. Trade publications get more spotty attention. Some are read closely as a major and invaluable source of information, others are breezed through. The average executive depends on an assistant to call important items to his attention. No mere clerk can handle this chore. One president delegates the task to a vice-president. Another, Donald C. Power, of General Telephone Corp., relies on his secretary to condense reports and screen his mail, thus cutting his office reading to two hours a day. But she's a Phi Beta Kappa college graduate, and has two years of law school. As an added duty, she calls magazine articles to his attention.

This method wouldn't work for everyone. "I can't find the reader who knows me well enough to know what I want to know," says William E. Williams, president of the Procter & Gamble Co. of Canada, Ltd.

• **Homework**—Most executives read business digests and newsletters at the office; news magazines are saved for the home, partly because the family likes them.

General business magazines are taken home, too, for uninterrupted reading. Lloyd E. Braybiel, vice-president of San Francisco's American Trust Co., spends an hour and a half a night going over business and trade magazines. B. M. Gira, president of Topp Industries, Inc., does much of this type of homework, too. "You hate not to read them," he comments.

But James P. Furniss, vice-president of Citizens & Southern National Bank, Atlanta, doesn't take anything home. Says Furniss: "I decided about a year ago life is too short to spend time at home on business."

Company reports (BW—May5'56, p95), an important management tool, are paradoxically the bane of an executive's existence. "I spend an hour a day reading junk or just sifting through piles

How Formica-4 helped develop a superior shuttle

A long search for a better shuttle was brought to a successful conclusion recently when Draper Corporation announced its sensational new "Tru-Mold." The new shuttle lasts 2 to 3 times longer than previous types. It's a perfect example of how Formica-4, the complete laminated plastics service, provides better materials for new uses.

After many attempts to replace the traditional dogwood shuttle, Draper and Formica's research engineering developed a molded laminated plastic shuttle that promised to match Draper's high standards. Extensive mill trials showed greatly reduced loom stops because: Formica completely resists the atmospheric conditions in the weave room, and molding holds the metal parts in perfect alignment and correct position *permanently*.

The same coordinated Formica-4 service that assisted in this development may be successful in solving your materials problem. It provides research and application engineering, unmatched fabricating facilities and a stock service plan. Send for your free copy of Formica-4 bulletin. Formica Corporation, subsidiary of American Cyanamid, 1-4660 Spring Grove Ave., Cincinnati 32, Ohio.

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of paper to find out what not to read," says G. Warfield Hobbs, vice-president of First National City Bank of New York. He despairs of a solution.

Here are some frequent methods of attacking the reading load:

• Take reading courses, so that you can learn to absorb more in a shorter time.

• Have reading matter screened or predigested by assistants.

• Shake down the whole company reading flow, to avoid overlap and to make sure that each man gets only what he needs.

• Exercise judicious neglect. In other words, let the stuff pile up, then "regretfully" toss it away.

At one time it looked as though lessons in speed reading would be the answer (BW–Apr.5'52,p78). Reading courses successfully doubled the executives' reading speed without diminishing his comprehension. But instead of cutting the time he spends reading, this frequently merely enables him to jam more reading into his waking hours. Only if the executive is selective in his reading, can these courses give him free time.

Standard-Vacuum Oil Co., Western Electric Co., Inc., American Brake Shoe Co., and U.S. Rubber Co. are just a few of many major corporations whose executives have gone back to school to improve their reading. Others, like General Motors Corp., set up their own speed reading courses, and numbers of executives take advantage of nearby facilities to take courses on their own in the evening.

Reading courses are offered by many large universities as well as by several private companies. New York University's Reading Institute typically serves companies as well as individuals. Average cost of a 28- or 30-hour course which usually doubles or triples a man's reading speed: $70-$100.

A number of companies have brought in consultants to rejigger their reports system. One such consultant, Records Management Institute, of New York, says that up to 12% of most company reports are probably obsolete, with another 63% open for improvement. A large ship line has a consultant come in every year to look over its reports and help prune away red tape.

Most of these methods have proved worthwhile. Essentially, they help an executive make better use of his reading time by helping him live with the problem.

They make his reading load more manageable by eliminating waste motion and by selecting more efficiently the information that's available. All else failing, there's a last way out. Remarks one San Francisco executive: "Next to the dog, the wastebasket is man's best friend."

Giving So That It Counts

Richard Eells tells corporations that most of their philanthropic programs are too helter-skelter, need more thinking and better administration to make them effective.

U.S. business is being charitable to the tune of a half-billion dollars this year, and the amount will increase from year to year. Most of this money is being distributed in a "scatteration" fashion with little system or sound thinking behind it.

That's the present state of corporation philanthropy, according to Richard Eells in his new book titled Corporation Giving in a Free Society (Harper & Bros., $3.50).

Eells is manager of Public Relations Research at General Electric, and former chief of the Div. of Aeronautics at the Library of Congress. His book refocuses attention on the oft-repeated theme of Beardsley Ruml's pamphlet The Five Percent, published five years ago by the National Planning Assn. (BW–Aug.18'51,p28; Jan.12'52,p66).

• **Company Policy**—The Internal Revenue Act of 1935 included a provision allowing corporations to deduct from their returns "gifts and contributions" of up to 5% of their net income—an amount that many companies now feel is too low. Thirty-nine states and the District of Columbia have passed laws permitting corporations chartered there to give to charities. Congressional investigations into the operations of charitable foundations may result in more stringent curbs, but will surely not alter the basic concepts of corporation giving, Eells says.

But, he points out, it still costs the corporation something to give to charity, so the basis of the giving must be in company policy, and not in the tax laws. This basis is found in a management concept that a corporation is not merely a maker and marketer of goods and service, but is also a "basic unit in our multigroup society." Corporate business is becoming increasingly aware that unless it uses its power wisely, it will lose out to government or labor.

• **Double Duty**—Eells believes business, one of the private sectors in society, must strengthen other private sectors so they can operate without government intervention. Giving that achieves this end is fulfilling the double necessity of being philanthropic as the Internal Revenue Bureau sees it (because it benefits society) and being wise in the use of stockholders' money.

Among the areas where Eells feels the philanthropic-minded company can justly expend its funds are: studies of governmental processess and the media of mass communications; improvement of private educational facilities, including adult education; and the conservation of human resources through health and accident prevention programs. He also includes libraries, museums, recreational facilities, fraternal groups, creative arts, and religious groups.

• **Criteria**—As criteria for determining an individual corporation's giving program, Eells suggests "the geographic scope of its business, the diversity of its operations, and the long-range objectives of the enterprise." Such activities as Bulova Watch Co. Foundations' free school of watchmaking for disabled veterans, and Sears, Roebuck Foundation's "cow-hog-hen" program, which improves farm living standards, obviously fit these companies' personalities. But Eells allows for an even broader interpretation. A pharmaceutical company, for example, might contribute funds for non-denominational religious radio and TV programs since they "strengthen the bonds of faith as one avenue to a more healthy national environment."

• **Setup**—To choose the form the giving should take, and to administer the program, Eells urges the establishment of a special department or a separate foundation. He sees this department sifting all requests, investigating needs and the best way to meet them, consulting with other foundations and private investigators such as the National Information Bureau, a clearinghouse for charities.

The corporate foundation, as Eells sees it, should expend its funds in four ways:

• Corporate identification, covering the company's long-range giving.

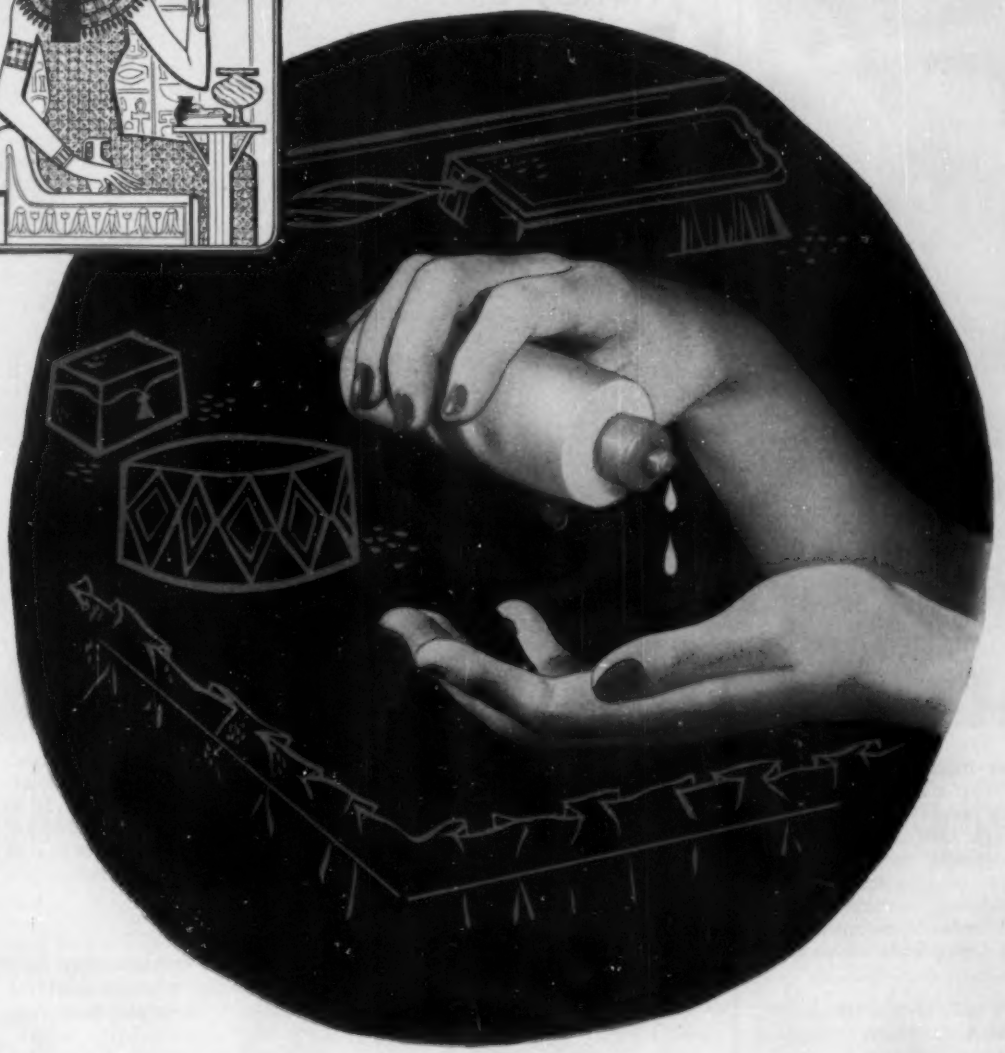
• Fixed charges charities, such as community drives.

• Special administrative costs, such as studies, special consultants.

• Emergency programs stemming from political, economic, or natural developments.

• **Public Relations Job**—Eells emphasizes the role of the public relations staff in the task of giving away money. It is the duty of the public relations department, he says, to keep tabs on public opinion through a continuing analysis of the company's external relations. It must then make such use of its findings that the activities and programs that emerge will be laudable, proper, and consistent with corporation policy. END

Cleopatra never had "it" so good as your wife!



Cleo went a long way in her thirty-eight years. Who knows—she might have gone even further if she'd had better beauty aids than the "barley flour and butter" lotions of her day! Those ancient concoctions can't compare with the modern cosmetics your wife uses to keep her skin soft and lovely.

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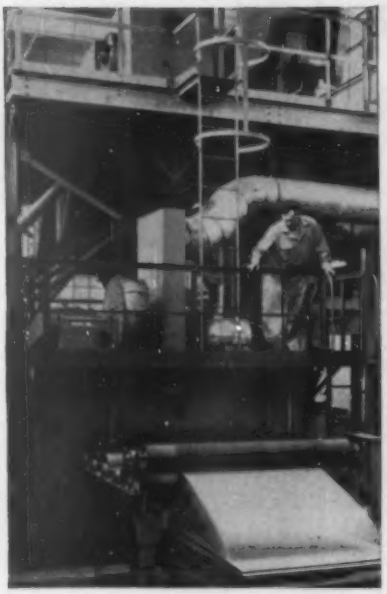

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Money Still Calls the Tune

For the businessman who likes to think of himself as a professional manager, the recent fortunes of Studebaker-Packard Corp. present an interesting study.

At the time of the merger of Studebaker and Packard in 1954, Pres. James J. Nance laid out a program that he had every reason to believe would succeed, given the necessary time (BW—Aug.11'56, p26). Bankers were willing to bet money that he would succeed; insurance companies, too, apparently were willing to back him when called upon. There was general agreement that Nance, as head of Hotpoint Div. of General Electric Co., had proved his ability in a highly competitive field before he became chief of Packard.

Nevertheless, no one expected Nance's job as president of the merged Studebaker-Packard to be a snap. He was taking over no red-hot merger in a super sales period. Independent automakers were suffering sharp setbacks; it was on the chance of an upturn that money was being wagered. So his financial backers had no reason for false hopes.

Last year, though, as the auto industry headed into its biggest sales year, Studebaker-Packard made a fairly good showing. Losses of nearly $74-million in 1954 (on a pro forma basis) were cut to about $29-million. Nance's plan was to break even in 1956, to make a profit in 1957. Even late in 1955, when the first signs of sales trouble started, Nance still had no reason to doubt that money would be available to carry out his program.

Then came the blow. The financial sources he counted on became concerned about the auto industry's outlook, and just when Nance needed it, they decided not to provide the money.

From then on, it was a matter of saving what could be saved of the company—hence, the Curtiss-Wright Corp. deal.

Those are the essential facts of the case. Some businessmen will wag their finger and say the whole idea of turning out a line of Studebaker-Packard cars wasn't a sound program; others will insist that, with or without extra money, Nance's program would have failed, especially in a year of declining auto sales.

Even so, there's a lesson for the professional manager in all this. If nothing else, it does bring into sharp focus a business fact that has sometimes been overlooked in recent years.

It is simply that the best business plans are worthless if the right amount of money isn't available at the right time.

This may sound like a truism. But it's a fact that hasn't always been recognized lately, and now there's renewed interest among businessmen, consultants, schools of business, and younger managers in the subject of financial management.

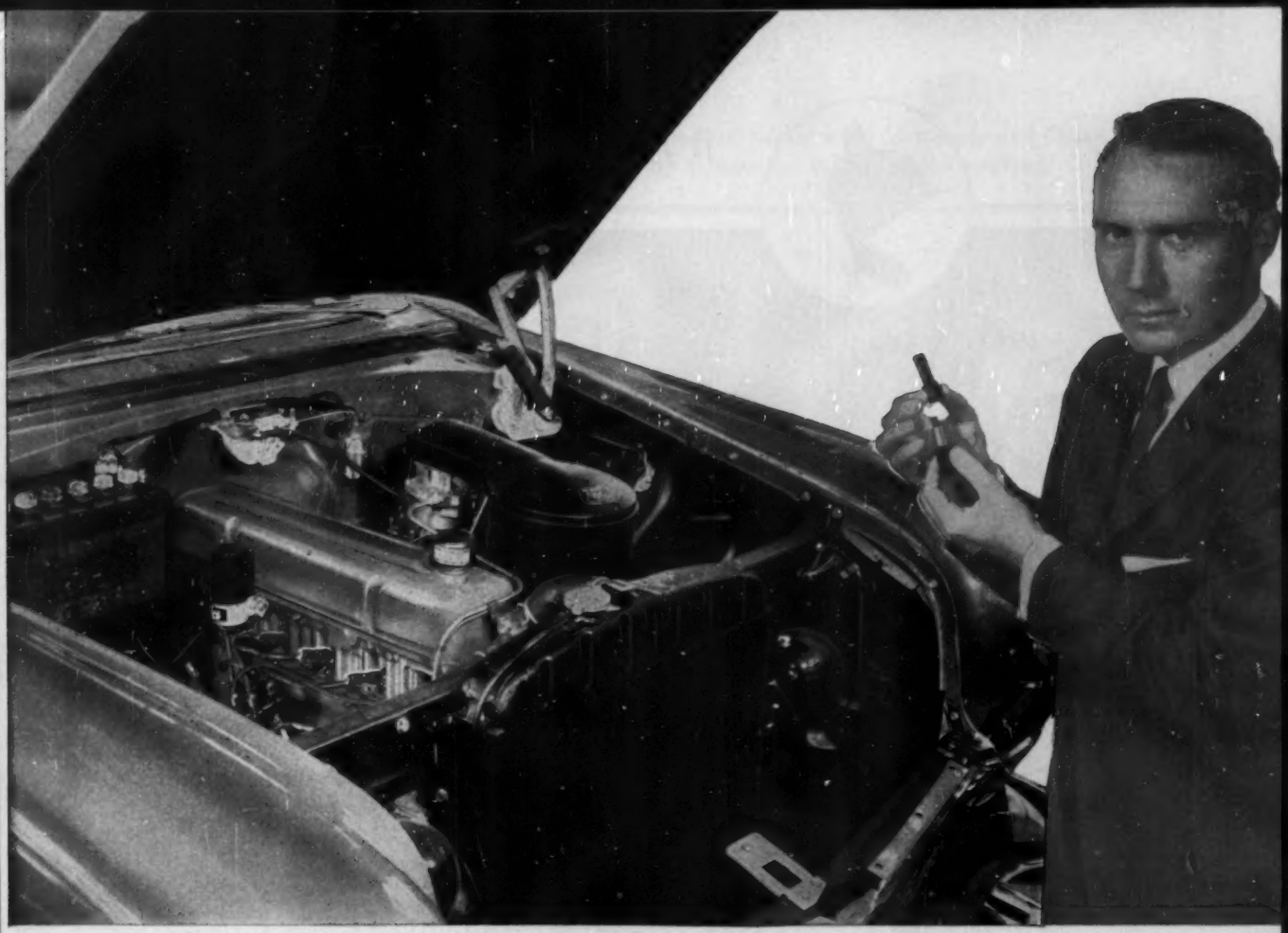
There are two good reasons for this:

First, raising capital to finance business planning has become more difficult, for the first time in many years. Postwar prosperity conditioned managers to expect open arms in the money markets. Now this has changed—and the change puts a premium on a manager's knowing well his sources of capital. Nance himself, according to a source close to him, says, "The one big lesson I learned is never to start a program without being certain the money is available."

Second, many managers now moving into the top levels of business have been operating men—not often required to understand the ins and outs of capital formation. They have worked with budgets, and have been virtually assured that they can turn the tap at headquarters to get needed funds.

Now there's a thirst for knowledge about the workings of business finance. Management education courses are stressing it, and so are companies like National Starch Products, Inc., whose internal financial management course had resounding success (BW—Jan. 7'56,p66).

The Studebaker-Packard case shows that professional managers, at any level, would do well to understand that we are still in an economy where money talks and can call the tune.



He helped this engine get off to a fast start

He's the technical representative of your rubber-goods supplier. His job is to help companies like yours in the development of new or improved products.

A typical example is the work he did in cooperation with a major car manufacturer. The company's engineers faced the problem of finding a new rubber material for the spark-plug boots of its engine.

They had increased the engine's horsepower, but at the same time they had reduced engine space by lowering the hood for low, modern styling. They knew that the rubber spark-plug boots couldn't take the punishment of increased ozone concentration and temperatures averaging 270°F., with occasional peaks of 340°F. The rubber would deteriorate, allowing dirt and water to reach the plugs and cause trouble in starting the engine.

The company's engineers called in the representative of one of their rubber-goods suppliers. Working together, they began testing new materials for the spark-plug boots. It wasn't long before they decided upon Du Pont's new synthetic rubber called HYPALON. HYPALON was virtually ozone-proof, and its resistance to heat was exceptional. It did the job so well that the company decided to standardize on HYPALON spark-plug boots for its 1956 models—both V-8 and 6-cylinder engines.

This is a typical example of a product improvement traceable to the experience and technical knowledge of the representative of your rubber-goods supplier. It will pay you to ask him how the Du Pont elastomers—neoprene and HYPALON®—may be used to help solve your company's product problems.

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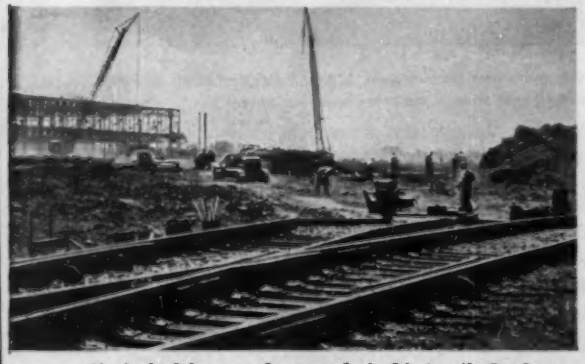
Full speed ahead on modernization. Since 1945 C&O has spent over a half billion dollars on modernization, with another $100 million budgeted for this year. In this decade, Chesapeake and Ohio has become almost a new railway.

Full speed ahead on new equipment. With 222 more diesels on order this year, C&O's fleet of locomotives will become completely dieselized. Over 90% of its 88,000 freight cars are new or rebuilt and 13,000 new cars are on order.

Full speed ahead for freight. New, more efficient classification yards, terminals and signal systems make up a track improvement program costing $20 million, assuring faster, dependable schedules for freight shipments. On Lake Michigan, C&O's fleet of seven trainferries has been completely modernized. At the other end of the railroad, a new $8 million bulk cargo pier is nearing completion at C&O's Atlantic port of Newport News.



Typical of the new plant tracks is this 3-mile C&O spur to serve Ford's huge new Lincoln plant at Novi, Mich.

Full speed ahead for coal. As the world's largest carrier of bituminous coal, Chesapeake and Ohio keeps pace with the growing coal industry. Sixteen million tons of quality coals will be loaded into Great Lakes vessels at C&O's Toledo docks this year and more than 17 million tons will be hauled to Newport News for ocean movement. C&O loads almost half of the coal America exports overseas. A $3 million addition will increase the loading capacity of C&O's coal docks at Newport News by 20%.

Full speed ahead for service to new industry. C&O is adding new plant tracks at a cost of $3 million to better serve the transportation requirements of the automotive, coal, chemical and other plants locating on the railroad.

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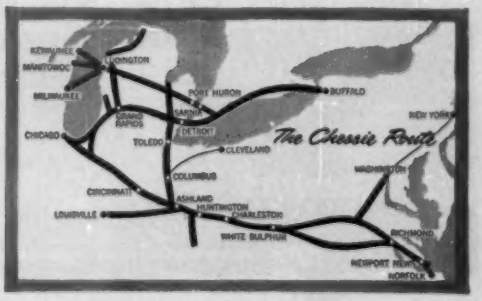

Does group relamping pay?

Western Electric cuts lamp replacement time over 3700 hours with G-E group relamping plan

REPLACING fluorescent lamps one at a time as they burned out was a time consuming job for the Indianapolis Works of the Western Electric Company. Individual replacement sometimes took up to 20 minutes for each 40-watt lamp and 23 minutes for each 90-watt lamp in this huge plant of over 1,300,000 square feet. In many cases the labor cost of replacing a lamp exceeded the lamp price itself.

IN OFFICE AREAS

In 1952, Western Electric engineers discussed with General Electric lighting specialists the economies of replacing large groups of lamps at the same time, before they burn out. As a test, the company Group Relamped 3000 40-watt lamps in the general office building. Results: replacement time was cut to 2½ minutes per lamp!

IN MANUFACTURING AREAS

Savings resulting from faster replacement convinced Western Electric that Group Relamping was the answer to lamp maintenance. They then Group Replaced 15,000 90-watt lamps in the manufacturing areas with G-E lamps, cutting replacement time there to 3¾ minutes.

The 90-watt lamps in the plant average 2 years' service (over 12,000 hours), at about 21 hours per start. Less than 20% of these lamps have burned out at replacement time.

SAVE OVER $2000 PER YEAR

The program started in 1952 and is still in operation today. The quality of lighting has been levelled off and the direct maintenance savings are estimated at between $2,000 and $3,000 per year.

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General Electric lamps are so uniform their life can be safely predicted. By replacing them in groups before they burn out, you can save up to 50% of your lighting maintenance dollars. For more facts on Group Relamping factories, stores, and offices, send for your free copy of the new booklet, "Group Relamping Pays Dividends." Write to General Electric Large Lamp Dept. BW-8, Nela Park, Cleveland 12, Ohio.

In the office areas, the improved appearance, higher lighting levels and fewer work interruptions resulting from Group Relamping also pay dividends.

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In Management

• • •

Cabinet Committee Recommends Tax Relief for Small Business

A special cabinet committee last week recommended to Pres. Eisenhower a 14-point program for helping small business. **The main item of relief suggested for the little businessman was a reduction of the tax on the first $25,000 of corporate income from the current 30% to 20%.**

Among the other major points listed by the seven-man group headed by Dr. Arthur F. Burns, Presidential economic adviser, are these:

- Accelerated depreciation to be allowed on purchases of used buildings or equipment.
- Corporations with only a few stockholders to be given the option of being taxed as partnerships.
- Standardization of procurement procedures to help small business get more government contracts.
- Extension of the life of the Small Business Administration beyond its scheduled expiration date of mid-1957.
- Extension to 10 years of the time allowed to pay inheritance taxes if the bulk of an estate is invested in closely held businesses.

• • •

Accountants' Groups Propose Stiffer Requirements for CPAs

Last week, Certified Public Accountants—almost as sought after as engineers—heard the official details of a plan to make entry into their profession even more rigorous than it now is.

This week, they still were mulling over the implications of the plan and what position they intend to take. **But by the end of this month and in September, they will be registering their individual reactions—both pro and con. That's when the two sponsors of the plan, the American Accounting Assn. and the American Institute of Accountants, respectively, will be holding conventions** and hearing comment on the whole idea from attending members. Since the accrediting of CPAs is regulated by the states, the two groups can only recommend changes.

Today, would-be CPAs across the country take a uniform examination before they can be certified. But each state decides what amount of schooling is needed before an applicant can take the exam. A high school degree, for example, is required in Nebraska, but in New York a college degree is needed. And the amount of working experience required to qualify for the exam also varies—from one to five years—from state to state with formal education sometimes substituting for experience.

Under the proposed plan, a person wishing to take the exam will need four years of undergraduate college work with emphasis on accounting, topped off by one year of graduate work in accounting. If he passes, he must serve a three-month internship with accepted firms before he is eligible for his CPA.

Plenty of successful CPAs who got their certification the hard way without benefit of much formal education, are going to toss bricks at the proposed educational requirements. States such as Ohio and Kentucky that don't have stiff requirements may be slow to raise them, say the plan's proponents. **But these people expect that in 10 to 15 years, the new plan will be adopted by practically all the states.**

• • •

Mack Motor Truck Co. Makes Deal For Brockway Facilities

Mack Motor Truck Co., which boasts its production is running one-third ahead of last year's while the truck industry as a whole is 10% off the 1955 pace, last week signed an agreement to buy another old-timer in the business—Brockway Motor Co. Brockway's 1955 sales totaled $14-million.

Mack will make a cash purchase of Brockway's inventory and rent all manufacturing facilities with an option to buy. Brockway stockholders must O.K. the deal, probably will act late this month. **Mack will keep Brockway as an operating division to bolster it in the heavy equipment line.**

Pres. P. O. Petersen gets credit for having sparked Mack into such advanced developments as the vertical lift cab-over-engine truck (BW—Apr.2'55,p142). In February, 1955, Mack bought two electronics companies and merged them into a new wholly owned subsidiary.

Mack sales for the first six months of this year—$126.6-million—were 51% above the first half of 1955 and an all-time high for the company.

• • •

Merger Rumors Are Flying About Beech Aircraft Corp.

Merger talk is in the air at Beech Aircraft Corp., builder of light commercial aircraft (BW—Feb.26'56, p178).

Beech officials at the company's headquarters in Wichita express surprise at the rumors. The president, Mrs. Olive Ann Beech, was in New York, attending a convention of the International Order of Soroptimists. **One top Beech official, however, admits privately that several companies have made tentative approaches**—reportedly including New York's General Dynamics Corp. Allen D. Marshall, vice-president and secretary of General Dynamics, disclaims knowledge of such a move.

Beech's net sales of both military and commercial planes dropped from $78-million in 1954 to $77-million last year. Net sales for the nine months ended June 30 were $56.1-million, compared with $59.5-million for the same 1955 period. **However, sales are expected to get a lift from a supersonic test missile that has been accepted by the Navy and from a new twin-engine light plane, the Beech Badger.**

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British Chief Unhorsed

In dark-paneled London clubs, in the bars and boardrooms of Birmingham, Liverpool, and Leeds, wherever British businessmen gather, there's headshaking over what happened a couple of weeks ago to Sir Dudley Frank Docker (picture).

For 16 years, Sir Bernard was managing director of the $60-million Birmingham Small Arms Co. Last May, he got the heave-ho from the board of directors. Now, after what seemed on the surface to be an American-style proxy fight, the stockholders have confirmed his ouster.

Sir Bernard's fellow tycoons would ordinarily have been wholly on his side of the controversy. Yet there were factors in this case that lead to mutterings of "Serves him right"—factors like his expense account, and his wife, Lady Docker.

• **Management at Bay**—Sir Bernard's domination of Birmingham Small Arms Co. seemed as secure as anything in Britain until last spring. Then came the stockholder uprising, with Wodehousian touches that set all England to talking about the business baron and his lady.

Birmingham Small Arms makes rifles, machine guns, motorcycles, machine tools, special steels—and Daimler cars. For years, the company has lost money on the Daimlers, but their prestige value is high—the British Royal family prefers them—and the corporation is big enough to carry the loss if the boss chose to go on making them.

The boss, Sir Bernard, did choose to do so. His decision went without challenge until money-minded stockholders began indignantly poking into the company's accounts to see why it was stagnating in the midst of a general industrial boom. That's when Sir Bernard's expense accounts—and his wife's scale of living—became an issue in the corporation's intramural fight.

• **Living High**—Sir Bernard is the son of Dudley Frank Docker, self-made millionaire who bought his way into Birmingham Small Arms and made a place for his only son. In 1949 Sir Bernard married Nora, a widow who is rich and vivacious and who shares his appreciation of the good things in life.

Sir Bernard and Lady Docker lived like Victorian nobility—in a time when British businessmen generally were tightening their belts. They did it in the only way possible under British income tax laws—at company expense. This in itself doesn't shock other businessmen. Everybody does it. But the men in the club and the boardroom think Sir Bernard overdid it a bit.

Like many industrialists of the old school, Sir Bernard treated the company as his private property (the Dockers own only 2% of its stock). He packed management with his own people, told them only what he had already decided. He carried things off by charm. But he made three fatal mistakes:

• He ran up an over-heavy expense account in a period when things weren't going well for the company.

• He encouraged Lady Docker to live a Hollywood-dream type of life at company expense. He saw nothing wrong with that—she was building up glamorous background for Daimler cars.

• He allowed into the company John Young Sangster, a capable, hard-boiled engineer who had built up the Triumph motorbike business and sold it to Birmingham Small Arms Co. five years ago for $5.6-million and a seat on the board of directors.

• **Society's Darling**—Lady Docker became the symbol of her husband's conspicuous spending. For example, she had a stable of five specially built Daimler cars—solemnly christened Gold Car, Blue Clover, Silver Flash, Star Dust and Golden Zebra. Each car cost the company £10,000 ($28,000). She used them to drive from party to party. And she dressed to live up to them.

Lady Docker's dresses, furs, hats, and jewels—and her free hand with cham-

SIR BERNARD and Lady Docker lost their plush expense accounts when stockholders revolted, unseated him as manager.

pagne—made her the darling of the society reporters. Sir Bernard beamed from the background, shook hands heartily, and spent much of his time sailing on his yacht.

The crisis came in January, when Docker asked the company's chief accountant to pay a $22,400 bill from French couturier Chiberta for four dresses, a full-length silver-fox furpiece, and two mink boleros, all of which Lady Docker had added to her wardrobe for the opening of the Paris motor show. The accountant refused, so Sir Bernard signed the check on the company's account (he later agreed to repay it out of his own pocket).

• **Defenestrated**—That's when Sangster, fed up, got another director to join him in calling a special stockholders' meeting to tell all. They also talked to officers of the Prudential Assurance Co., BSA's biggest stockholder with 5% of the equity. Leslie Brown of Prudential asked Docker for an independent financial report but was turned down.

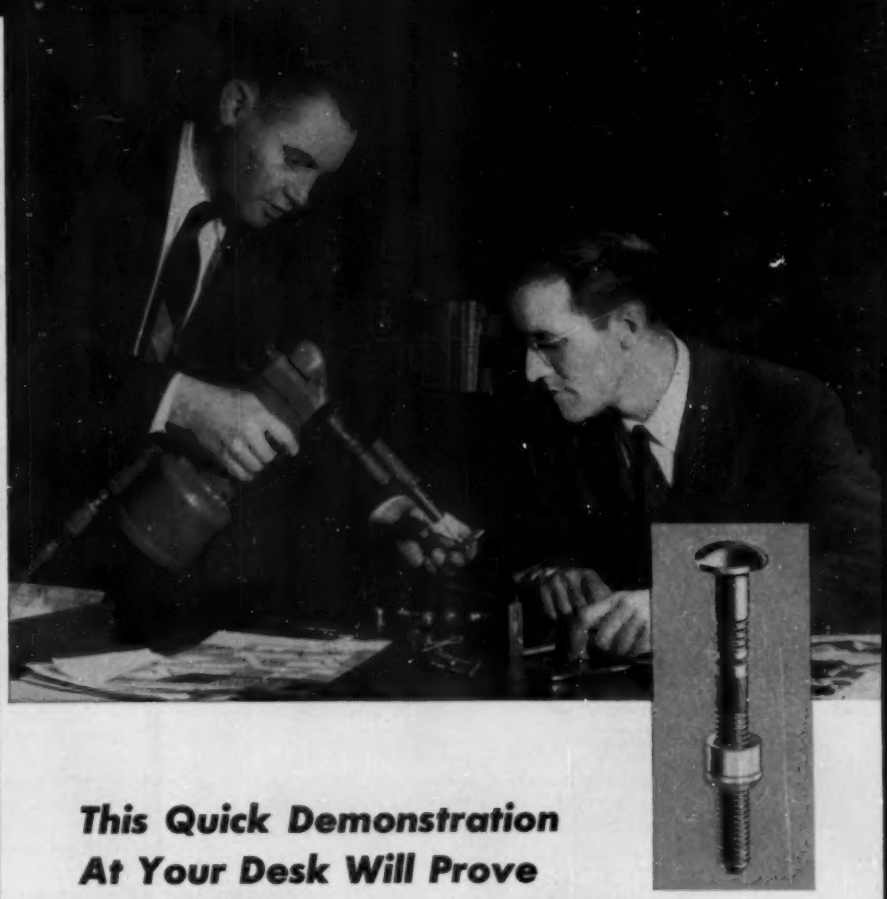
Sir Bernard was aware of a gathering storm, but he did nothing to rally support among his directors. On May 31, Sangster persuaded a majority of the board to vote Sir Bernard's dismissal, subject to approval by the stockholders at this month's meeting. The vote was taken under a clause in the company's articles of incorporation that had been overlooked by Sir Bernard.

• **Proxy Fight**—The new board, now headed by Sangster, laid the story of Sir Bernard's regime before the stockholders in a letter asking for their proxies. The Sangster group still held only a small fraction of the voting shares, so an open fight was still possible. Sir Bernard finally decided to make the fight. He appealed to stockholders by letter, on television, and then at last in person at this month's meeting.

He revealed that he had worked without pay as managing director and board chairman for 14 years, until two years ago. (Both he and his wife have big incomes from investments, and any salary would have been in the 90% tax bracket.) Two years ago, his pay was fixed at about $60,000 a year, plus $30,000 pension contribution and another $30,000 of tax-free expense money—in addition to cars and other travel costs.

Sir Bernard's attempt to rally support came too late, it seemed. In a dramatic meeting in London, 1,500 stockholders present confirmed the board's action by 3 to 1, and the proxies ran in about the same ratio against him.

No one knows yet if the company will repossess the five Daimlers named Gold Car, Blue Clover, Silver Flash, Star Dust, and Golden Zebra. END



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Townsend lockbolts are available in steel and aluminum alloy, in 3/16", 1/4", 5/16" and 3/8" diameters, in grip length ranging up to 2", in various head styles.

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The Structure

How Policy Is Determined

CONVENTION
meets in 1957 and biennially and formalizes federation policies and programs

EXECUTIVE COUNCIL
Elected by the convention, it includes the president, secretary treasurer and 27 vice-presidents. It governs AFL-CIO between conventions, meets at least three times a year.

EXECUTIVE COMMITTEE
It includes the president, secretary-treasurer and six vice-presidents chosen by the Executive Council, and meets bimonthly to advise and consult with executive officers on policies.

GENERAL BOARD
Made up of Executive Council members and one officer of each affiliated union, it meets at least once a year on policy questions referred to it by the Executive Council.

EXECUTIVE OFFICERS

George Meany
President

Wm. Schnitzler
Secy.-Treas.

NATIONAL HEADQUARTERS
815 16th St., N.W., Washington

United Labor's Structure Solidifies

When the hierarchy of the united labor movement goes into session next week at Forest Park, Pa., there will hardly be a ripple of dissension to disturb the tranquillity of the Pocono countryside.

The site of the executive council's (chart) summer meeting is Unity House, the "country club" of the International Ladies' Garment Workers' Union. It's the first time the council chose the mountains for a meeting. David Dubinsky, a vice-president of the AFL-CIO and president of the ILGWU, is the host.

• **Skepticism Fades**—The council meeting itself will produce some problems, disagreements, possibly even a debate or two, but no more than either of the federations experienced before they were one. The point is that the merger has confounded the skeptics and pleased the optimists beyond their fondest hopes. Labor unity is here to stay.

The recurring speculation that Walter Reuther's chief preoccupation is his own promotion as George Meany's successor is not getting much support from Reuther himself. Reuther heads the industrial union department, a carry-

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Conducted Under AFL-CIO National Headquarters

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50 STATE FEDERATIONS IN 48 STATES, PUERTO RICO AND ALASKA

1,021 CITY AND COUNTY CENTRAL BODIES

AFL-CIO DEPARTMENTS
Number of affiliates and presidents:
Building Trades (19): *Richard J. Gray*
Industrial Union (72): *Walter Reuther*
Maritime Trades (9): *Harry Lundeberg*
Metal Trades (19): *James A. Brownlow*
Railway Employees (6): *Michael Fox*
Union Label (61): *John J. Mara*
Government Employees Council (21): *Leo E. George, Chairman*

138 AFFILIATED INTERNATIONALS

60,000 LOCALS OF INTERNATIONALS 900 LOCALS DIRECTLY ATTACHED TO AFL-CIO

DEPARTMENTAL LOCAL COUNCILS

as Internal Harmony Grows

over of the old CIO. He took the department's summer meeting out to Denver last month, far from the wellsprings of publicity. Then he took a month's vacation in the Rockies, interrupted only by an occasional lecture.

To all appearances, Meany and Reuther have settled their differences on international affairs for at least a year. Meany has agreed to conduct labor's foreign missionary work for that period through the International Confederation of Free Trade Unions, instead of operating independently. This was Reuther's principal goal in the foreign field.

• **Presidency**—Domestically, the executive council will have to face up to the question of whether to endorse a Presidential candidate this year. There are signs that the federation may go back to AFL tradition and stay officially out of the Presidential contest. At least Meany is inclined that way.

The off-the-record belief is that Eisenhower is a sure winner, assuming no further health problem. So many in labor's high command, though wedded to the Democratic party, see no point in endorsing a lost cause. Since no

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convention is scheduled, the endorsement issue can be quietly forgotten.

• **Welfare Woes**—The ethical practices committee, which got a special grant of authority at the June council meeting, is expected to recommend a notice and warning to three affiliated unions that are tainted by bad welfare fund publicity. The three are the Laundry Workers, the Distillery Workers, and the Allied Industrial Workers (formerly the UAW-AFL). The committee headed by Al Hayes of the Machinists is expected to recommend that the council put these unions on notice to clean up by a certain date or face firmer action—possibly suspension—by the AFL-CIO governing body.

The civil rights committee has prepared a report advising the council that the Southern insurgency is subsiding. Committee members say that White Citizens' Councils tried to exploit the united labor movement's official position among Southern members, but that the tensions are dying down.

• **Craft vs. Industry**—The old frictions between craft groups in the construction industry and the industry-wide type of unions are still going on, and probably will indefinitely. The building trades clique, at the insistence of the executive council, officially withdrew its letter to central labor unions and local unions asking them to delay the AFL-CIO mergers at state and city levels. Nevertheless, it is reported that the Teamsters and a few unions in the building trades department are still throwing sprags into the merger wheels. The state and city bodies have until the end of 1957 to work out mergers. If they fail, the federation will simply pick up their charters.

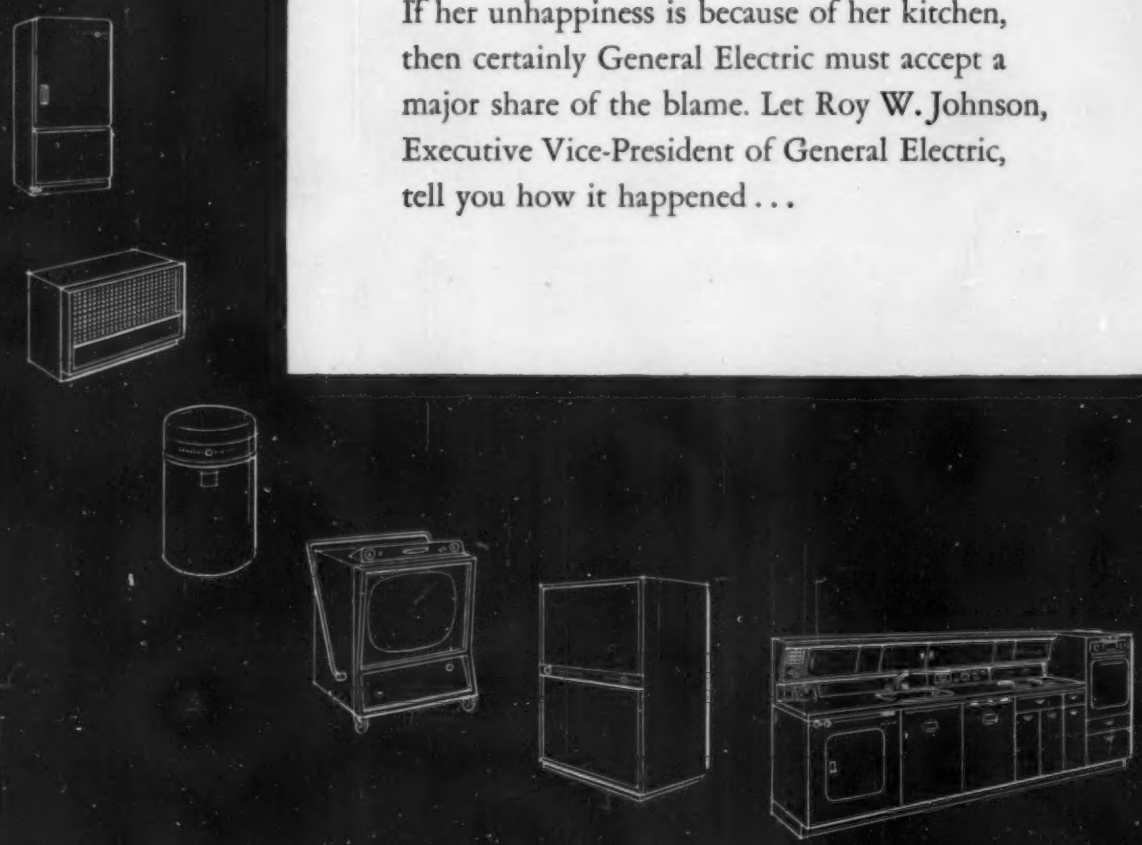
In the meantime, some genuine effort seems to be going into the search for procedures that will reduce the craft-industrial friction in the field and minimize jurisdictional stoppages. The industrial union members of a joint committee at a meeting in Washington on Aug. 8 came up with a proposal that the other side is studying. They agreed to resume talks at Unity House coincident with the opening of the executive council meeting on Aug. 27.

• **Money and Staff**—Administratively, the federation's problem is too much staff and too little money. The merged body retained everybody that the separate federations had employed and made some upward salary adjustments, besides, to try to keep everybody happy. A special per capita assessment will relieve the financial pinch for two years and there is more money where that comes from.

But the morale problem persists. There has been some improvement since the spacious, shiny new building eased the overcrowding, but still too many have too little to do. END

Who made your wife unhappy?

If her unhappiness is because of her kitchen, then certainly General Electric must accept a major share of the blame. Let Roy W. Johnson, Executive Vice-President of General Electric, tell you how it happened . . .



MR. ROY W. JOHNSON
Executive Vice-President
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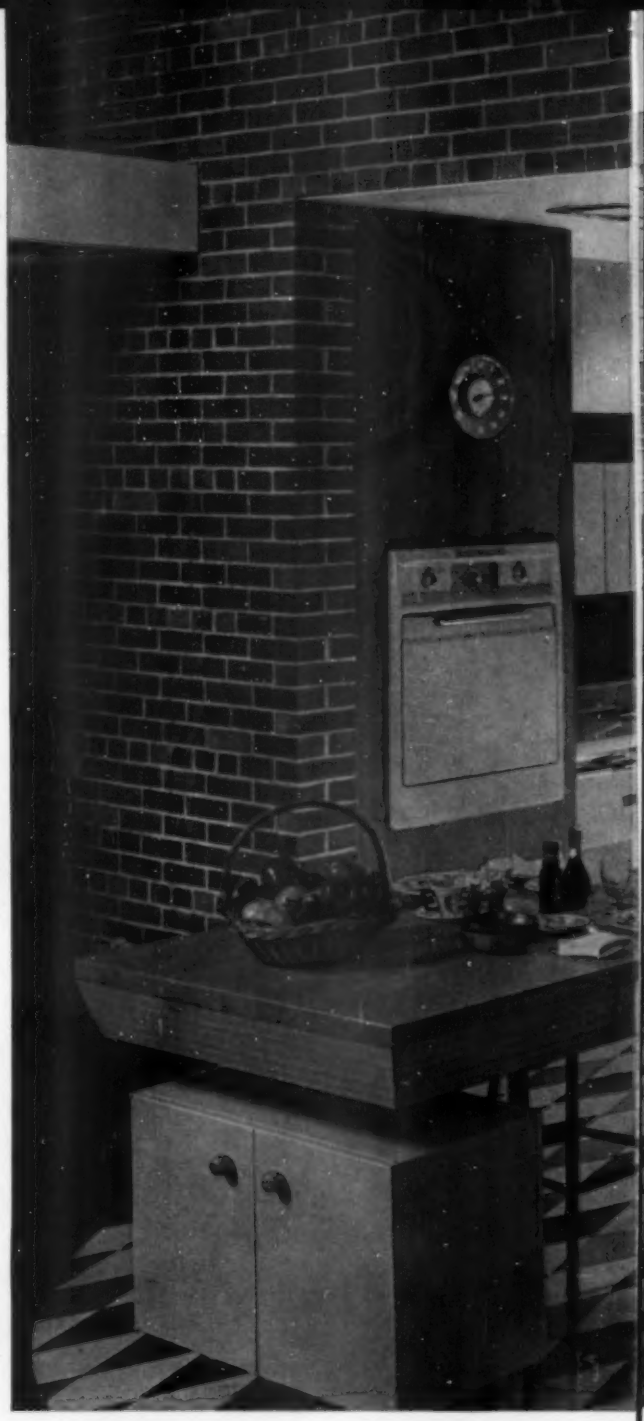
Mr. Johnson says:

"No one man, nor even any one department, can claim full credit for the development of General Electric's Living Kitchen or other consumer product developments. They are the cooperative achievement of the skills of many men . . . researchers, designers, engineers, production men, marketing specialists, and our distributors and dealers.

"It's been my observation that the men who contribute most to the development and production of new products are those who keep abreast or ahead of industrial and marketing trends. Their careful reading of business, trade and technical magazines helps spark ideas for the advancement of our organization's activities."



9,772 key men at G-E

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Headquarters for Business Information

New Gauge for Economy

The Labor Dept.'s Bureau of Labor Statistics last week published this six-month report on overtime worked in manufacturing plants.

	AV. WKLY. HRS.	AV. OVER-TIME
	JAN.	
ALL MANUFACTURING	40.7	3.0
DURABLE GOODS	41.2	2.8
NONDURABLE GOODS	39.9	2.7
	FEB.	
ALL MANUFACTURING	40.5	2.8
DURABLE GOODS	41.0	3.0
NONDURABLE GOODS	39.8	2.5
	MAR.	
ALL MANUFACTURING	40.4	2.7
DURABLE GOODS	40.9	2.9
NONDURABLE GOODS	39.6	2.5
	APR.	
ALL MANUFACTURING	40.3	2.7
DURABLE GOODS	41.1	2.9
NONDURABLE GOODS	39.2	2.4
	MAY	
ALL MANUFACTURING	40.0	2.6
DURABLE GOODS	40.7	2.8
NONDURABLE GOODS	39.1	2.3
	JUNE	
ALL MANUFACTURING	40.1	2.6
DURABLE GOODS	40.9	2.9
NONDURABLE GOODS	39.1	2.3

This is the first time that such information has been available; its publication marks the beginning of a new government economic index. And Administration economists are intrigued with a theory that such statistics may develop as a sensitive indicator of the economy.

One criticism heard about existing economic indicators is that they are too long in the development process, that figures are available only after the fact, when it is too late.

• **Sensitivity**—The Council of Economic Advisers, as well as Labor Dept. officials, are giving the overtime experiment a close look. The experts are not ready to say whether the index will provide a new crystal ball on business trends, or just some more interesting facts on the characteristics of U.S. employment.

The theory behind the new index is simple: Employers tend to reduce overtime before they lay off workers, and tend to increase overtime before they hire new workers. Generally, overtime changes precede ups and downs in employment. So, a continuing check on the amount of overtime might tip off some significant changes in the economy.

This is what bureau officials had in mind about six months ago when they decided to expand the long-established monthly surveys of gross average weekly hours of production workers in manufacturing industries. They added collections of overtime statistics. The new figures released are the result of a six-month trial period, while BLS developed and perfected the techniques for collecting and developing the new data.

• **Wait and See**—The experts are holding off judgment on the tipoff value of the new index, at least on the basis of the first six-months showing. For one thing, the past six months has been a fairly stable period and the index was not really tried, and was not put to the test.

Furthermore, the index is too new to give any basis for judging how big a drop or rise in overtime would reflect a significant shift in the economy's pace. The drop in overtime from January to June, however, is not considered important, because it can be explained by seasonal fluctuations and special factors, such as layoffs in the transportation equipment industry and others feeling a pinch.

On top of this, there's the chance that though overtime changes may correctly mirror changes in the economy, they may not really "tip off" changes before other figures being collected. The series of established employment figures, such as gross hours worked and gross earnings, are also pretty sensitive to major trends in the economy. BLS thinks the overtime index may show a drop a month or two before these other figures; but it will be a year or more before it can be established whether the overtime figures can show up anything much in advance of the other figures.

• **Building It Up**—Scheduling on the new index has not jelled yet. The six-month report is, of course, a one shot affair. It carries preliminary over-all manufacturing figures for June, but no individual industry figures for June and, as the table shows, no figures at all for July.

BLS plans to fill in this gap in June figures and also report preliminary over-all manufacturing figures for July in its regular August report on employment and earnings.

That's the pattern BLS expects to follow from now on, including preliminary overtime figures for the preceding month in its regular monthly report. The data is based on a sample of over 44,000 manufacturing plants, covering roughly 8,600,000 workers, which amounts to about 13.3% of total employment. END

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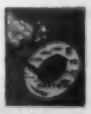

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WATCH WESTINGHOUSE
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The Skilled Labor Force Problem

There are now 9-million skilled workers in the U.S.; that's one out of seven of all workers.

2.8 -million are in the building trades
2.0 -million are mechanics or repairmen
1.25-million are in the metal trades
.9 -million are foremen
.4 -million are technicians
1.50-million are in other skilled jobs

This skilled force requires 250,000 new craftsmen yearly to replace losses from death, retirement, and transfer.

70,000 come from apprenticeship programs
15,000 are partially-trained apprentices
10,000 are skilled immigrants

150,000 must be siphoned from semiskilled jobs

Data: U.S. Dept. of Labor.

©BUSINESS WEEK

A Growing Shortage

"Half of the world's production rests upon the shoulders of only about 14-million highly trained people." That's how Dean Courtney C. Brown, of Columbia University's Graduate School of Business, sums up the importance of skilled workers. He figures this way: The U.S. accounts for about 50% of the world's output; the key group in America's labor force consists of 9-million skilled workers plus 5-million professional and scientific employees.

• **Official Concern**—A high level of skill is vital to an advancing economy. Realizing this, many groups such as the President's Council of Economic Advisers, the Defense Dept, the Labor Dept, and others, are concerned about where future skilled workmen will come from.

The table above shows we're not even holding our own; fewer craftsmen enter the labor force annually than are necessary merely to keep the level stable.

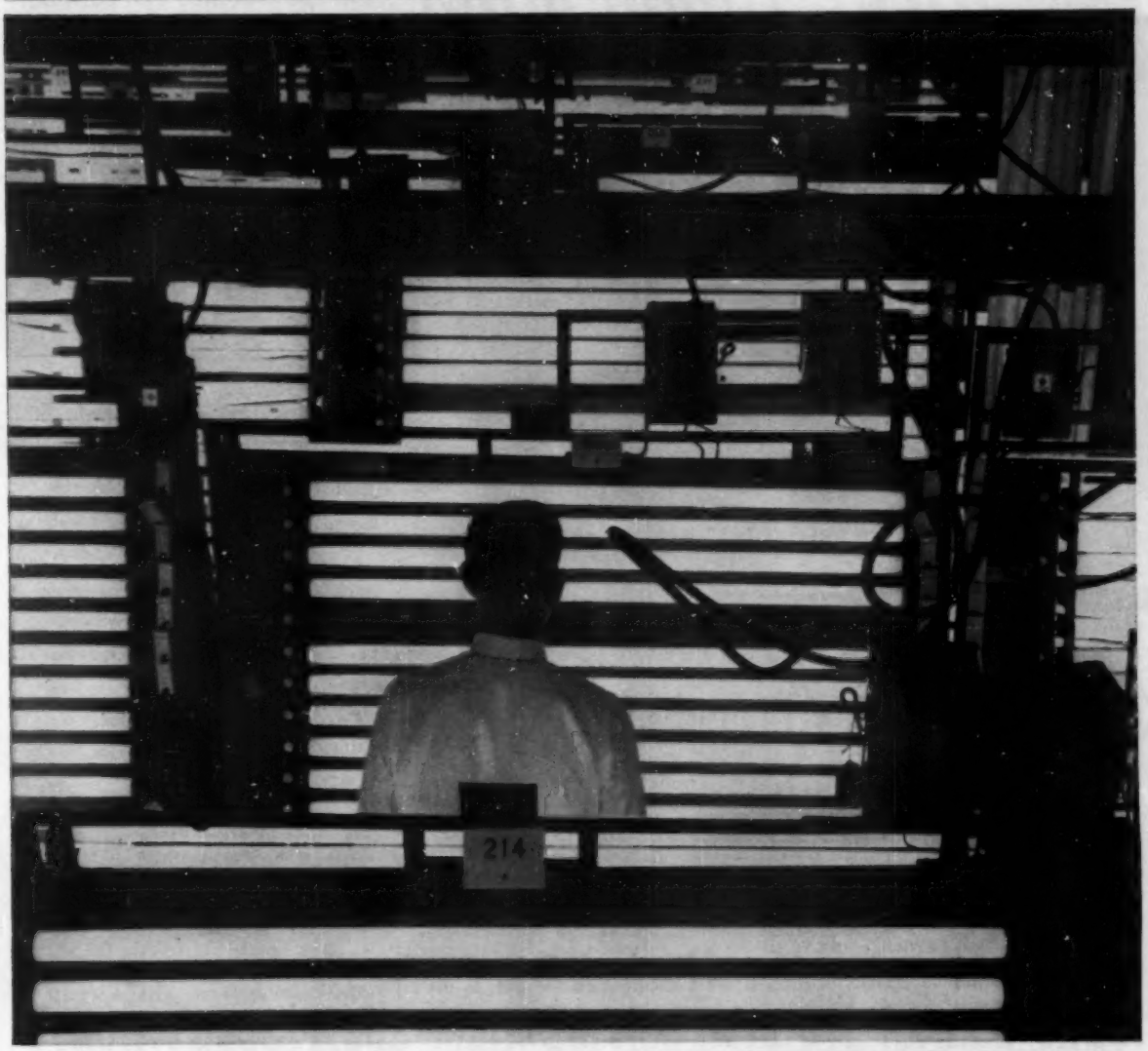
Employment experts agree that advances in automation will increase the need for skills, that the skilled work force must expand. They also agree that the time to prepare for this expected demand is now. By its very nature, skill—of any kind—takes time to acquire. The U.S. Labor Dept stresses that craftsman training has its roots in high school education; this will increase as complex production processes require a broader grasp of mathematics and other sciences.

• **Hard to Count**—When you attempt to define sharply who is skilled and who is not skilled, you run into difficulties. Some students of the labor market claim the shortage of skilled workers is even more serious than it appears. They fear the number of skilled workers now in the labor force may be overstated, since semiskilled or partially skilled workmen engaged in jobs requiring a high level of craftmanship may be listed as skilled.

The National Manpower Council admits that the "measure of skilled work is relative and changing, and the classification of workers as unskilled, semi-skilled, and skilled must always be somewhat arbitrary." But the NMC and a number of government agencies are striving to make the figures less arbitrary.

• **Suggestions**—As the table shows, employees already working at semi-skilled or unskilled jobs are the main source of skilled workmen. So both employers and unions have a stake in doing something about the shortage. END

how to judge a fluorescent lamp . . . point no. 7



ask about QUALITY CONTROL

You would never guess it from their price, but fluorescent lamps today are *precision* products. (In Westinghouse fluorescent lamps, for example, you'll find mercury measured with the precision of a doctor's prescription, electrodes wound with fine-watch accuracy.) Thus only the closest quality control can give you the high light output, the long life, the good color qualities you expect from every single lamp you buy. Westinghouse quality control includes *480 inspections and tests* for every lamp produced.

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Ingersoll-Rand GR-125 Gyro-Flo Compressor, Continental-powered, operating Mall chain saw cutting 12" x 12" timber to repair pier. Equipment in use on an eastern railroad.

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A Twist for SUB

With weekly pay, construction workers will get stamps that they can cash during layoffs.

A new twist comes next week to supplementary unemployment benefit plans. It's an "SUB stamp plan" that has been worked out between contractors in Albany, N. Y., and Local 6 of the Bricklayers, Masons & Plasterers.

It's one of the vast number of variations on the theme of SUB that have sprung up since Ford Motor Co. made its plan.

The Albany contractors will next week begin putting into each of their employees' pay envelopes special stamps equaling 10¢ for every hour the employee works. To get the stamps, the contractor will go to the bank—First Trust Co., which will handle the system without charge—and buy as many as he thinks he'll need to meet payroll requirements. Each employer will have a special code number, with which he will cancel every stamp.

• **Offseason Gain**—In December, January, and February—their traditional offseason—the employees' may cash in their stamps at First Trust Co. The stamps will be negotiable only if they're canceled with the employer's code number. And the workers have to cash in the stamps they've collected during the previous year by the end of February if they're not to lose the credits.

This system, the union says, will offset wage losses during layoffs. And, if a man does work the whole year through without layoff, he can still benefit—he loses none of the 10¢-an-hour credits.

• **Vacations, Too**—In itself, the stamp idea is not new, but the application is. As early as 1949, bricklayers in St. Louis devised a similar program to provide paid vacations (BW–Sep.10'49, p116). Under this plan, contractors pay 3% of their gross payrolls to a St. Louis bank, which issues stamps to accompany each paycheck.

Construction workers can cash in these stamps any time during the year, the idea being to encourage them to take vacations. However, if a man wants to work straight through, he can still cash in his stamps. The St. Louis bricklayers have been collecting an average $150 a year—some get as much as $220—by this system.

Union and employers both are happy with the way the St. Louis plan has worked. A similar plan is working well in Buffalo, N. Y. The Albany bricklayers don't like title "vacation stamp plan." They call theirs an enforced savings plan. END

'Yellow Pages' Trade Mark Service pays off for LEE Tires!

Displaying This Emblem In Your Advertising Means More Sales For Your Dealers

Lee Tire & Rubber Company uses Trade Mark Service in the 'Yellow Pages' of telephone directories in hundreds of markets. To *prove* the effectiveness of this program, Lee made a test study using one of their factory branch stores in Pittsburgh. *Result: 1100 sales inquiries in 12 months.*

As a result, Lee's advertising *now* carries the tie-in reference, "See your Lee of Conshohocken Dealer listed in the 'Yellow Pages' under "Tires."

Today, among Lee dealers who are advertising in the 'Yellow Pages,' success stories are commonplace. One dealer, for example, who without 'Yellow Pages' advertising sold only 35 Lee tires in one year, sold *43 in one week* through his new listing under the Lee trade mark heading.

An experienced Trade Mark Service representative is ready to outline a custom-made plan to fit your marketing program. Just call the Bell Telephone business office.

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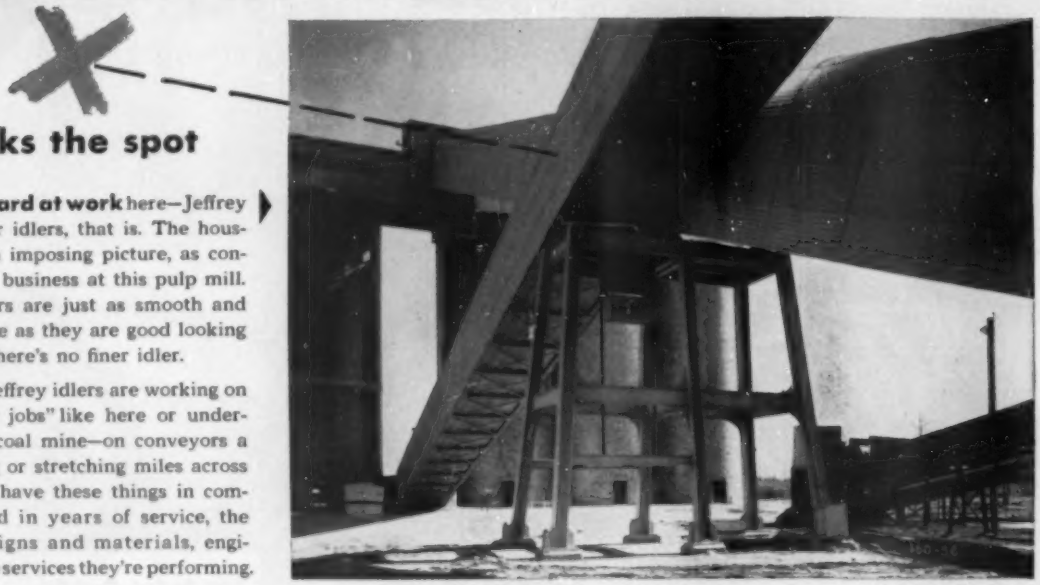
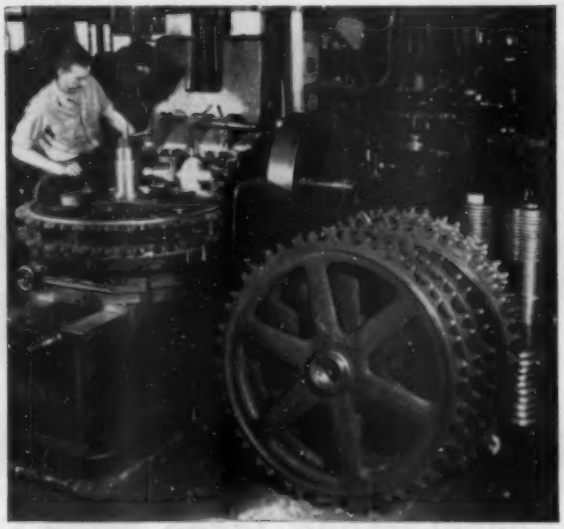


marks the spot

Idlers are hard at work here—Jeffrey belt conveyor idlers, that is. The housings make an imposing picture, as conveying is big business at this pulp mill. The conveyors are just as smooth and efficient inside as they are good looking outside, for there's no finer idler.

Whether Jeffrey idlers are working on "white collar jobs" like here or underground in a coal mine—on conveyors a few feet long or stretching miles across country—all have these things in common: Proved in years of service, the finest of designs and materials, engineered for the services they're performing.

Oysters are easily shocked—relax, open their shells and dry out. Unloading boats and conveying oysters to shucking tables and storage has to be done carefully, therefore. Jeffrey cooperated closely with the architects at this company's dock. Now production is up 15% on these ocean delicacies, thanks to a well-engineered materials handling system.



Precision machining of Jeffrey sprockets matches the precision workmanship employed in manufacturing Jeffrey chain. This helps account for the longer life on heavy-duty power transmission and conveying jobs where Jeffrey chains and sprockets are used.

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In Labor

• • •

NLRB Points Way to Solution For Bargaining With Merged Unions

Employers and unions are pondering a new National Labor Relations Board decision that points the way to solution for a question they have been asking since the AFL-CIO merger: Must an employer continue to bargain with a union after it becomes a new organization by merging with another union.

NLRB decided last week that Union Carbide & Carbon Corp.'s Edgewater works in Cleveland must bargain with the AFL-CIO Oil, Chemical & Atomic Workers. This union was the result of the 1955 consolidation of the United Gas, Coke & Chemicals Workers and the Oil Workers.

Consolidation, NLRB ruled, does not relieve UCC of its duty to bargain, even though the Gas, Coke & Chemical union was originally the certified bargaining agent.

These, said NLRB, were the controlling factors in its decision (though, it added, not all were necessarily essential):

- UCC employees participated in discussions and planning for consolidation, registered no disapproval.
- The consolidated union assumed all responsibilities of the constituent unions, and is acting as their "alter ego."
- The unions, of comparable size, split new official positions almost equally, so the certified union has not been engulfed and dominated.
- Continuity is preserved at the local level, with no change in officers or functions in the locals, or loss of union benefits by individual employees.

• • •

Tie-Up of Lake Ore Boats Threatens Steelmen's Newly Won Peace

Labor trouble in Great Lakes shipping kept steel executives wondering this week whether they really were out of the woods yet.

A strike by Marine Engineers Benevolent Assn. and Masters, Mates & Pilots Assn. against Pittsburgh Steamship Div. of U.S. Steel Corp. threatened to spread to the entire Great Lakes ore fleet and posed a serious threat to iron ore stockpiles in down-lake ports.

A lake-wide stoppage would mean that no iron ore could move from the mines by lake boat to steel company stocks; that the producing companies must begin eating into reserves laid up against the time when the winter freeze closes lake traffic.

The dispute arose over recognition. In past years, the two groups haven't been able to organize elections to settle the question of recognition until winter began and the lake sailors scattered to other jobs. This year, both groups seemed determined to force the issue without bothering about an election. They sought recognition from Pittsburgh Steamship officials, but their request was rejected. Then they demanded that other ore boat owners meet with them to discuss recognition.

The unions have made Pittsburgh Steamship their first target because, with its 58-vessel fleet, it's the Great Lakes' largest ore carrier—and on the lakes, as in the mills, U.S. Steel is the pace setter.

A side issue in the dispute is wage differentials. MMPA—representing licensed deck officers—and MEBA—representing licensed engineers—complain that unlicensed hands on the ore ships, some 2,600 of whom are United Steelworkers members, get all the benefits of USW settlements with the steel companies, and that licensed hands don't. Over the years, they say, the wage spread has narrowed. Their picket banners read: "We don't want the leftovers."

• • •

NLRB Has a Boom in Elections But AFL-CIO Share Stays Even

Stepped-up AFL-CIO organizing drives seem to be having at least one measurable effect—there was a sharp upswing in the number of National Labor Relations Board representation elections in the second quarter.

But AFL-CIO unions won only their usual share of these elections.

NLRB's latest election figures, covering 1,326 collective bargaining elections held between April and June show AFL-CIO unions won 770 (about 60%) of the 1,263 elections in which they participated. Workers chose "no union" in 465 elections (about 30%) and independent unions won 5%.

In 20 elections held to decide whether a union should be deprived of its bargaining rights, 15 resulted in decertification of the union.

• • •

Labor Briefs

A new Southern labor group sprang up earlier this month when Southern Crafts, Inc., filed incorporation papers in Alabama. Its policy: all white membership. One part of its appeal: objection to "domination and centralization of control" by AFL-CIO. Southern Crafts now takes its place beside the earlier-formed Southern Federation of Labor.

A wage settlement of 24½¢-an hour over three years was reached last week by Aluminum Co. of America and United Steelworkers. Alcoa says other benefits, such as additional holiday pay, supplemental unemployment benefits, and changes in the wage rate structure, raise the package higher than the 46¢ figure used in the course of bargaining.

Michigan unemployment rose for the seventh straight month to July 15 total of 228,000, the state's Employment Service reports. This is 4,000 more than in the previous month and the highest, except a brief period of 1954, since November, 1949. Though some recalls are going out, auto model changeovers in late summer may push jobless figures higher.

LOOKING FOR THE LOWEST COST TRUCK?

Take a tip from the men who buy trucks every year

The big fleets buy more Fords

"We prefer Ford Trucks because they cost less," says Mr. D. Marino, a partner in Perfection Trucking Co. "We buy trucks regularly, so we feel we're up to date on what different trucks have to offer. We like Fords because our records show that when everything is considered . . . price, gas, repairs, reliability and long life, Ford Trucks are real money-makers."

"We operate 300 Ford Trucks," says Mr. S. Zipoy, Vice President of Johnson, Drake & Piper, Inc., world-wide contractor. "We've tried all makes of trucks. But our records show that when all factors are considered, Ford Trucks cost less. First cost is low. Running costs are low. There's less down time because Ford Trucks stand up."

than any other make!

Official truck registration data shows that owners of America's biggest truck fleets are buying more Ford Trucks than any other make. The big fleets have the cost records. They know which trucks cost less to buy and run. They know which trucks are most reliable. And the big fleets are going Ford!

You, personally, may not buy a truck but once every few years. So, you may well ask, "what's there in it for me, if the big fleet users favor Ford Trucks?"

Actually, you get two important benefits. First, you get convincing evidence that Ford Trucks do cost less. Second, you get the comforting assurance that you've made the right decision when you choose a Ford Truck.

Make no mistake about it. Low cost is just as important to the fleet user as it is to you. What's more, he's got extensive experience and detailed operating cost records to back up his judgment about truck costs.

Consequently, because big fleet users favor Ford, you can be sure that everything considered, Ford Trucks cost less. First cost is lower than most other trucks. Resale values are high. Ford's Modern Short Stroke engines are built to keep running costs low. And a 10-million truck study proves that Ford Trucks last longer. *See your Ford Dealer soon. Buy with confidence, drive with confidence, and save with confidence.*

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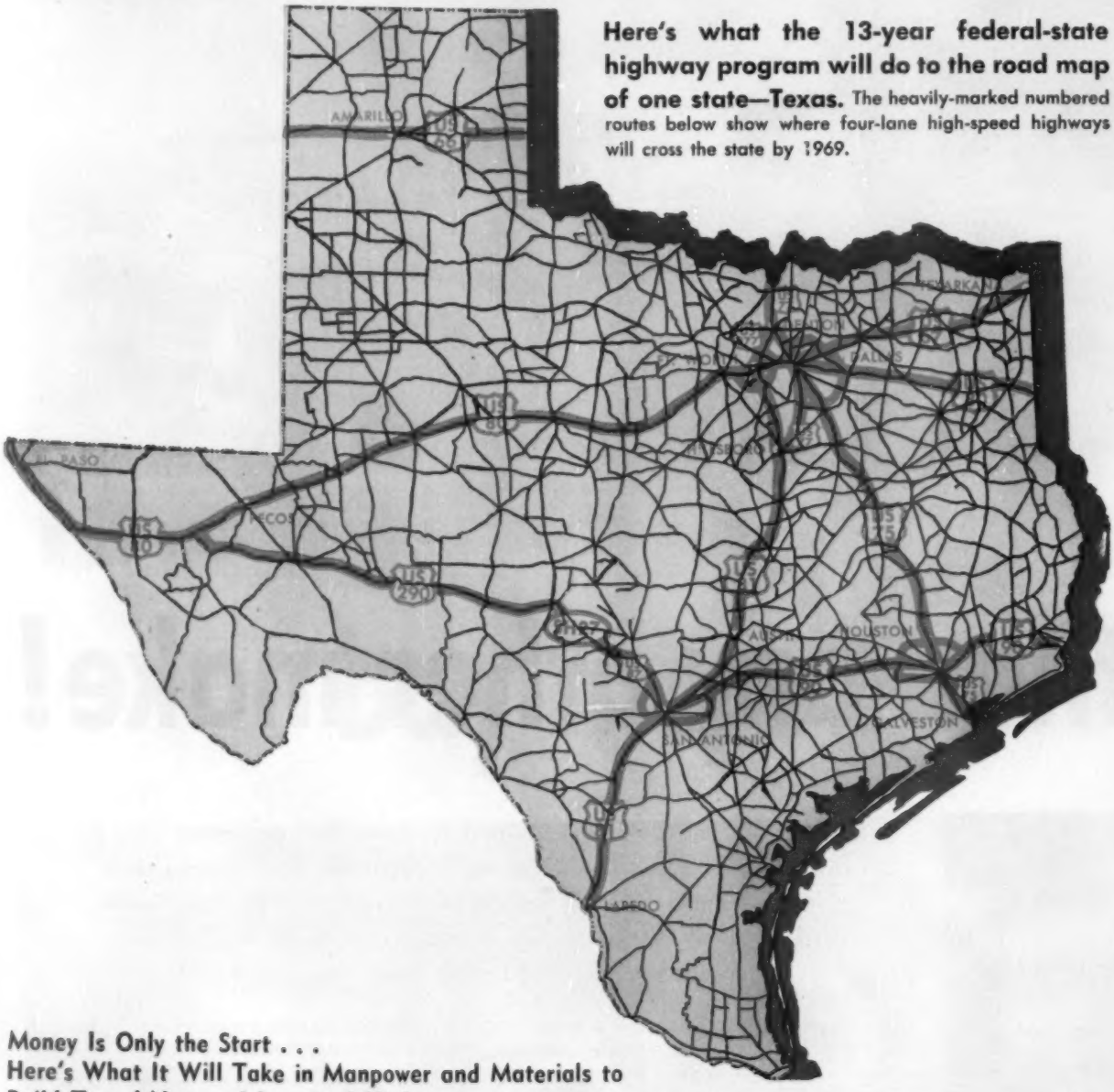

Here's what the 13-year federal-state highway program will do to the road map of one state—Texas. The heavily-marked numbered routes below show where four-lane high-speed highways will cross the state by 1969.

Money Is Only the Start . . . Here's What It Will Take in Manpower and Materials to Build Texas' New and Improved Highways

Item	Average amount required per year of 13-year program.
Steel	2,924 tons
Cement	84,000 bbl.
Bitumen & Asphalt	7,680 tons
Aggregates	582,600 tons
Concrete culvert pipe	2,880 tons
Lumber	432,000 board ft.
Petroleum products	800,000 gal.
Labor (on site)	23,640 men (at 1,600 man-hours per worker per year)

the Highway-Building Program

● Texas leads the 48 states in taking bids for its share of federally aided highways, starting with $8-million worth of work.

● But the others aren't far behind, and road builders guess they'll have signed for $400-million worth of work by yearend.

● Materials suppliers across the nation have been preparing; spot shortages may hit, but bad blocks aren't likely.

This week, in their headquarters at Austin, the chiefs of the Texas Highway Dept. broke open sealed bids from contractors who are after a slice of the first road building projects to be undertaken under the new state-federal highway building program. Seven projects—$8-million worth of work—have been up for bidding in this first move to turn the funds held in the highway program trust account in Washington into smooth-surfaced concrete and asphalt.

The $8-million start is only a tiny drop out of the huge bucket of money that's beginning to fill up in Washington from the new and increased taxes being levied on highway users. But small as it is, it does mark the beginning of what has been called the largest single peacetime program ever undertaken by the U.S. government. By 1969, when the program expires, a 40,000-mile network of high-speed highways, most of them four lanes wide, will criss-cross the nation, linking practically every city whose population is presently over 50,000. Federal money will pay for 90%, state funds for 10%, of this network. And there'll be thousands more miles of new and improved roads (primary, secondary, and urban) on the map, financed on a 50-50, federal-state basis.

• **Striking Network**—Texas, quickest on the draw to take advantage of the federal program and scheduled beneficiary of the most striking part of the network of new interstate highways (map), has precise plans for spending its first-year share—$117.4-million—of federal money.

By June 30, 1957, it aims to have let out contracts for the building or improvement of 472.6 miles of highway that will be welded into the interstate system. That, plus additional work on primary, secondary, and urban roads will cost a total of $230-million; Texas itself putting up the difference of $112.6-million.

• **What's Needed**—As the new road map of Texas begins to take shape through the following years, vast quantities of materials must be poured out to the sites where the dirt has to be moved. To put the state's part of the highway network together the road builders will need:

- 3-million tons of steel for bridges, guardrails, signposts.
- 583-million tons of aggregate to fill in the roadbeds.
- 8-million tons of bitumen and asphalt.
- 84-million bbl. of cement.
- 800-million gal. of petroleum products to run the road-building equipment.
- 23,600 men, on the average, to man the construction crews.

Through the first three years of the highway program, Texas will get $434.3-million in federal funds. Yearly allotments in these three years will be based on such factors as population and area; after that, the rules will change and federal aid will be given on the basis of need. But if Texas continues getting highway aid through the full 13 years at about the same rate as it's due to receive it from now until 1959, the state's road builders will be able to spend almost $3-billion; more than $2.1-billion in federal funds, $845-million from the state's own treasury.

The result of all the money and work: almost 3,000 miles of highways that will form part of the interstate network, thousands more miles of feeder and county roads and urban expressways.

• **Can They Do It?**—The question that hangs over all these projections is: "Can the road builders really turn all that money into new highways?"

In Texas, anyway, the road builders think they can. The state's highway department has precise blueprints for more than one-third of the roads it will improve or build in the first year; planning for most of the remaining first-year projects will be finished in two months at most. The state's treasury has enough in its highway fund to match federal grants for the first year of the program, sees no reason why it shouldn't easily be able to collect enough in 1958 and 1959 to match federal funds in those years. The highway department has changed its rules for acquiring right-of-way for highways: Formerly, local authorities bought right-of-way for highways passing through their territories; now state and federal funds can be used for this, where necessary. This switch permits the road builders to get land quickly, without waiting while procrastinating or dilatory town and county officials argue about expense.

• **Men**—Highway Dept. Chief D. C. Greer and his men have for months been reorganizing their engineering office so they can live more easily with the problems raised by the national shortage of engineering talent. They're ready to install, in October, the largest model of computer made by International Business Machines Corp.; they're using aerial photogrammetry as a substitute for much of their field surveying; and they're trying to relieve their engineers of the burden of trivial and routine work.

Texas contractors, the men who'll have to shift the dirt, believe they'll have enough machinery to do the job, says Greer. They see no great problem in finding the 23,600 men they'll need each year in their working crews.

• **Supplies**—The road builders are confident they'll be able to get without much trouble all the steel, cement, asphalt, and other materials that must go into the new highways. But their confidence seems to be based more on faith than on raw figures. Says Greer: "We expect American enterprise will lick any shortages that may develop. Of course, though, that's beyond our control." Nevertheless, they do have some solid grounds for their faith that materials shortages won't badly upset their program. Cement producers and equipment makers in many parts of the nation say they're expanding—or already have expanded—to meet the needs of the highway program.

• **Not So Rosy**—Over much of the rest of the nation, not all road builders have so carefree a view of the future as those in Texas.

BUSINESS WEEK reporters, interviewing highway department chiefs in every state, as well as producers of road-building equipment and of the materials that will go to make the new highways, found last week that there's only a conditional "Yes" in answer to the

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(Story starts on page 72)

question: "Will the U. S. have its planned network of new and better highways ready for traffic by 1969?"

About the only phase of the program on which most states see practically no problem at all is that of raising funds to match federal aid. Just about every state is confident that it will have enough in its treasury without raising highway user taxes.

This is the general picture, and, of course, some states are better off—and some worse off—than others. Several states can tap recently authorized bond issues to get matching funds. In Arizona, though, highway officials and state legislators can't agree whether they'll have enough to match federal funds. And in Idaho, highway user taxes may have to be raised.

I. Finding the Men

The most pressing problem in every state is how to beat the shortage of highway engineers. In Arkansas, they say: "We'll be doubling our work, but we can't get any more engineers." In Kentucky: "We've lost 100 of our engineers to industry in the last six months." In Oregon: "It seems that we'll be building our highways with high school engineers."

Many state highway departments seem to have given up hope of being able to do more than about half their own engineering work; they'll leave the rest to consultants. Some have lately been trying to let contracts for engineering along with highway construction contracts. Others have been scouring engineering colleges. Some have set up programs to train their nonprofessional staff—draftsmen and the like—to handle time-consuming work engineers formerly did. Others have quit crying about the engineer shortage and have turned to machines.

• **Trying Machines**—Probably the most fully automated state highway department is California's. Through the whole 13 years of the highway program it expects it will not have to farm out one engineering job to a consultant. Instead, it will rely on the sharply increased productivity of its own engineers who will be working alongside four large electronic calculators. These machines compute and analyze traffic statistics, calculate traverses or survey

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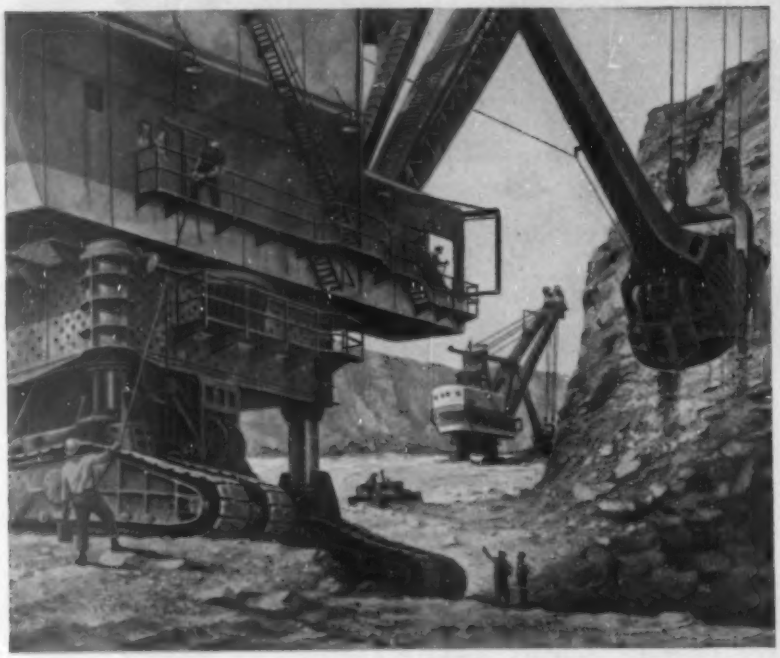

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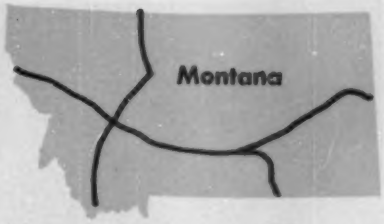


(Story starts on page 72)

lines, figure the amount of dirt that must be moved for highway cuts and fills, and do a variety of other chores. Today, California's road surveys are made by skeleton crews working on the ground who keep in contact by walkie-talkie radio with aerial surveyors above. This way, surveying work can be three or four times cheaper than if full ground crews are employed, California finds. It costs about $3,000 a mile to survey a 400-ft. wide strip of terrain by ground survey methods; by aerial survey the cost is about $1,000 a mile for a 1,200-ft. wide strip.

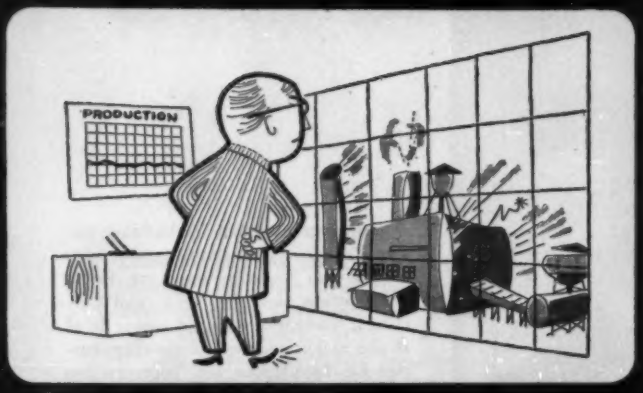
• **Planned System**—Backed by these technological advances California's road builders have no sense of panic over whether they'll be able to handle the bounty of $367.5-million in federal highway aid in the next three years. Anticipating the program, the highway engineers have long-range plans, and when the 13-year period is over, they expect to have built or improved 2,172 miles of road that will fit into the interstate highway system.

II. Making the Blueprints

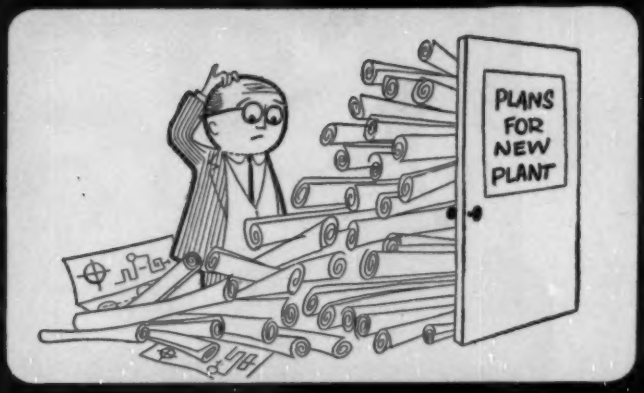
Despite the engineer shortage, planning in most states is well advanced. There are two reasons for this fast start: Highway departments planned eventually to do most of the new highway work themselves even if federal aid did not come through; and last year, after the defeat of the first federal aid for highways bill, many states guessed that it wouldn't be long before a new highway aid measure did get through Congress.

In Illinois, for example, most of the work that's to be done in the next 13 years will be simply an extension of highway plans made in 1946. In Iowa, planning for about 10 projects, $70-million worth, is just about complete. In Maryland, the road builders started on a 12-year highway construction program of their own, before the federal aid bill was passed. In Wisconsin, planning began two years ago and the state now has detailed blueprints for 107 miles of its allotted 483-mile interstate highway system.

• **Race**—So there's a solid backlog of work already blueprinted. But much of the planning has been done over several years. And now the question of whether they'll be able to keep ahead of the

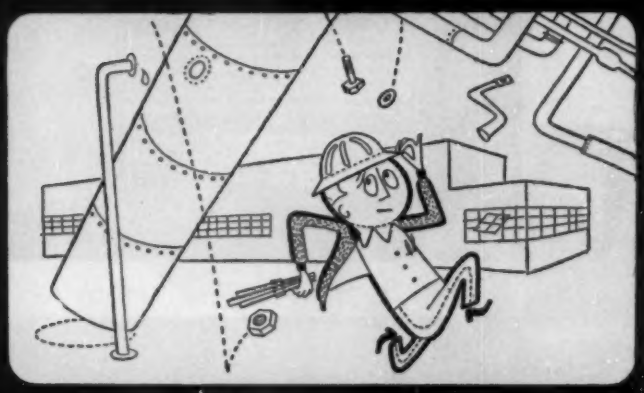


PLANNING A NEW UNIT – OR A COMPLETE PLANT, MILL OR REFINERY?



PROBLEMS OF DESIGN AND CONSTRUCTION ARE PILING UP

SURE YOU HAVE GOOD ENGINEERS – BUT NOW THEY MUST COPE WITH UNFAMILIAR PROBLEMS



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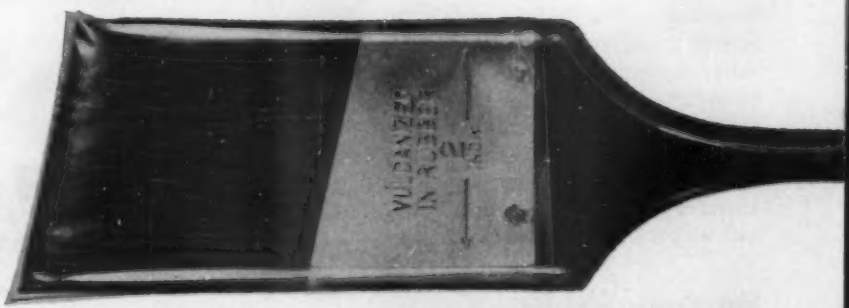
Longer life for house wiring results from the use of BAKELITE Brand Vinyl Plastic as insulation and jacketing. Tough vinyl plastic resists aging factors—cracking, stiffening, oxidation—retaining its electrical and physical properties far longer than earlier insulating materials. Installation is faster because this insulation provides easier, cleaner stripping and splicing—individual conductors in the cable have no fabric or saturating compounds. BAKELITE Vinyl Plastic is listed by UL for 60 deg. C. building wire and for non-metallic-sheathed cable, including the new all-plastic types UF and NMC.

Protection plus visibility—or how to let customers see and feel the quality of the business end of a paint brush without risking "shopwear"—is the job done by KRENE Cast Vinyl Film for this paint brush. Unsurpassed clarity, top heat-sealability, and superior strength make cast vinyl film ideal for sparkling packaging. And tightness against moisture and gas transmission add to its problem-solving abilities.



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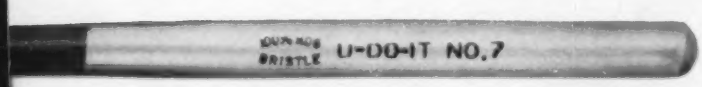
Did you know: The long life of durable, tough coatings based on BAKELITE Resins cuts maintenance costs for buildings and equipment . . . inside, outside, whatever the surface or service conditions.



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The MEMOTRON is but one of many electronic achievements that attest to Hughes Products leadership in research and development of electron tubes, as well as transistors and diodes. Advances like these will accelerate the dynamic electronics era—when you will be able to see over the phone, to control factory production electronically, and to enjoy countless other marvels.

As one of the country's largest electronics research and manufacturing firms, Hughes Products backs its semiconductors, cathode ray tubes, and industrial systems and controls with a long record of technical accomplishments. These include the "thinking" FALCON air-to-air missile, and the self-directing Hughes Automatic Armament Control which is standard equipment on all Air Force interceptors.

In your own business there is undoubtedly an application of Hughes electronic products which will save you time and money. A Hughes Products sales engineer will gladly work with your staff. Please write: Hughes Products, Los Angeles 45, California.

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RELY ON HUGHES FOR SEMICONDUCTORS ...ELECTRON TUBES...INDUSTRIAL SYSTEMS AND CONTROLS.

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greatly accelerated construction work is worrying many state highway departments.

Once again, part of the solution will depend on how they get around the engineer shortage. Roadbuilding industry observers guess that if the states get all they can out of electronic equipment, raise pay scales to attract new engineers and hold those they already have, and train nonprofessional technicians to take over much of the tedious work they now pass to their engineers, then they'll be able to keep ahead. But, these observers warn, if too many states think they can rely on engineering consultants alone, there won't be enough consultants to go around.

III. Getting the Land

Lack of engineering staff isn't the only factor that threatens fast work on the highway program. A much keener worry afflicts almost all the states: acquiring right-of-way for new highways.

Colorado has one of the toughest jobs in acquiring its right-of-way. In the central and western parts of the state, where transcontinental highways that cling to the edges of the Rockies are due to be widened and improved, overlapping mining claims cover the area. Some of these claims go back to the 1860s, and each one must be searched out from county recorders' offices and verified.

• **Aid From Law**—Elsewhere, road builders are getting assistance from legislatures in acquiring right-of-way. Twelve states have laws allowing their highway departments money for early acquisitions, or permitting them to "freeze" land for future use to prevent wild price fluctuations. But in the other 36 states, acquiring of right-of-way is a serious problem for the road builders and it will get worse if some similar legislation isn't passed.

IV. Shifting the Dirt

All those steps—getting the men, making the plans, buying the land—are the time-consuming moves that must be made before a drop of concrete can be poured for the new highways. From there on, it's a question of production—making the steel, cement, and roadbuilding machinery, and putting the highways in place.

From BUSINESS WEEK's survey if appears that most state highway departments aren't unduly worried about this phase of the job.

• **Anticipation**—Like the states themselves, roadbuilding equipment makers and cement producers have been planning ahead in anticipation of just such a federal-state highway program as Congress has passed.

Two years ago, the American Road

Rockwell Report

by W. F. ROCKWELL, JR.
President
Rockwell Manufacturing Company

A DANGER FACING THE MANAGEMENT of almost every sizeable company is, we believe, the danger of being insulated by the organization chart from everyday marketing realities. It is very easy for management to be so blinded by its own plans and desires that it loses sight of the most vital factor in the success of any business: The Customer and his needs.

That is why for a long time it has been our policy for every top staff man to get out periodically and do some selling. Managers of our manufacturing divisions make calls, with salesmen, on the men who buy (or are not buying) the products they manufacture. Heads of every department, no matter how far removed from selling, regularly attend sales meetings and are required to interpret for the group their function in terms of serving the customer.

We also use every practical means to project through our entire working force an appreciation of the fact that our jobs and our futures depend on how well we fill the needs of customers. It is impossible to measure accurately the degree to which we have made our "non-selling" people sales minded, but interesting indications are always coming to light.

* * *

There was, for instance, the Rockwell truck driver who—while waiting at a weighing station in California—struck up a conversation with a state trooper. It developed that the trooper was contemplating some major home improvements. The truck driver gave him a sales talk on Delta Power Tools, and sent his name and address to the Regional Manager, who got in touch with the local dealer. Result: the sale of several hundred dollars worth of Delta Tools.

* * *

The service manager of one of our divisions was so alert to the needs of customers that he devised a unique repair parts packaging program, the first in that particular industry. It speeds order handling, simplifies inventory control, and minimizes chances for error. It is so well liked by customers that it has become a valuable selling tool.

* * *

And then there was the assistant manager of a new plant who noticed that there were two large Rockwell gas meters installed prominently at the entrance to the college campus. He was sales-minded enough (and persuasive enough) to arrange for large trademarks to be mounted on the meters. There are those in our organization who feel the trademarks are too large (they almost obscure the product)—but we like his enthusiasm.

* * *

Microfilming of all product drawings, including tools and bills of materials, has been completed for all of our divisions. Negatives are stored away from plant premises, and each year a new reel will be added as new product drawings are made. In the event of a really bad fire or other catastrophe, this precaution will enable us to get back into production quickly, at a saving of untold thousands of man-hours.

* * *

This month is the beginning of a rather unusual special event being featured by Delta Power Tool dealers, leading department stores, and hardware stores. It is the Delta "Home Workshop Special" which offers, with the purchase of each Delta Saw-Jointer, a $16.95 Saber Saw attachment (for intricate curve cutting) free of extra charge. With this combination of tools, hobbiests can do about 90% of all woodworking operations.

One of a series of informal reports on the operations and growth of the

ROCKWELL MANUFACTURING COMPANY
PITTSBURGH 8, PA.

for its customers, suppliers, employees, stockholders and other friends

Builders Assn. began checking industries that would be affected by the highway program. It decided that:

• There'll be plenty of materials for the job.

• Machinery makers have capacity available to turn out all the necessary equipment.

• There are sufficient contractors in the country to handle the work.

Earlier this year, the group checked its findings again—and came up with the same results.

• **Supplies & Machines**—These findings do, of course, represent a long-term national view. There are bound to be spot local shortages of some materials as the program gets moving faster. Steel is one worry for the roadbuilders. By 1960, the states' demand for steel for their highway building will be close to 4-million tons a year. Steel capacity expansions are in the works. Meantime, though, shortages are frequently hitting road projects. Rhode Island's highway department, for example, complains it has had to wait a year to get the steel it needs for bridges.

For this reason, many state highway bridge designers are trying to use prestressed and pre-cast concrete wherever possible as a substitute for steel.

• **Expansions**—Cement makers have been expanding plants in many parts of the country. The states will be calling on them for 110.5-million bbl. of cement for the new roads by 1960. That's almost double the 1955 demand for cement for highways. But by then, the cement industry will have increased its capacity from 320-million bbl. a year at the end of 1955 to more than 400-million bbl.

Roadmaking machinery manufacturers, who have told the Road Builders Assn. that they have plenty of capacity to turn out the machines that will be needed, are in no great hurry to start using that capacity. Says Clarence Killebrew, vice-president of Clark Equipment Co.: "We expect a big hunk of work out of this program, but there's a lot of planning, engineering, right-of-way acquiring, and bidding to be done before we feel any noticeable push. The federal program won't mean much to us until 1958."

When that push really begins, many different industries will feel its effect: explosives—144-million lb. a year by 1960; paint—26 gal. for each mile of 6-in. wide center stripe along the highways; fertilizers—8 tons for each mile of highway to make grass grow along center and side strips.

• **December's Target**—But the nation's roadbuilding contractors will get first share of the new highway money. And they're predicting that by the end of the year they'll be ready to go to work on more than $400-million worth of the nation's new highways. END

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WORLD-WIDE MOVING: LAND, SEA, AIR

Photos courtesy Manger Hotels, New York, N. Y.

"These filters pay for themselves in two years —the rest is clean profit"

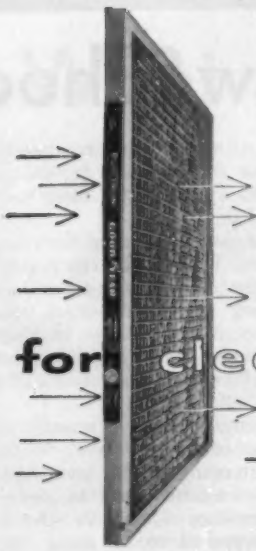
—REPORTS LEADING HOTEL CHAIN

To maintain its high standard of cleanliness this hotel chain was replacing throwaway filters in room air-conditioning units on the average of once a month. Next, they went to a permanent-type, oiled filter—but cleaning cost was excessive. Then they tried PLIOTRON—the world's first truly washable electrostatic air cleaner.

Today the Chief Engineer reports, "These re-usable units pay for themselves in two years. Cleaning them takes no more time than replacing the others—total savings in ten hotels are tremendous."

PLIOTRON is the super-efficient air cleaner. Its special filter medium actually attracts and captures up to five times as many fine dirt particles as ordinary media. Yet PLIOTRON takes longer to become dirty, because it depth-loads rather than surface-loads. And PLIOTRON can be expected to last indefinitely, because, when dirty, a quick bath restores its full efficiency.

PLIOTRON is available in standard panels to fit any air distribution system using ordinary filters, and in a new heavy-duty construction for extreme service conditions. It also comes in new half-inch thick panels for use in window air conditioners. For full details on how *you* can get clean air at less cost, see your PLIOTRON distributor or write: Goodyear, P.O. Box 288, Akron, Ohio.



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GOODYEAR

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EDUCATION

This is Fremont, Neb., a town with a school problem. In Fremont, the problem takes one particular form. In Syracuse, N. Y. (page 96), it takes another. The problems of Fremont, and Syracuse, and thousands of other communities add up to one of the great issues of the mid-century—public education.

THE TOWN Fremont station has witnessed a great insurge of new residents, who are creating a need for bigger and modern schools.

HIGH SCHOOL School board Pres. Stark wanted it to pick up the surge from grade school.

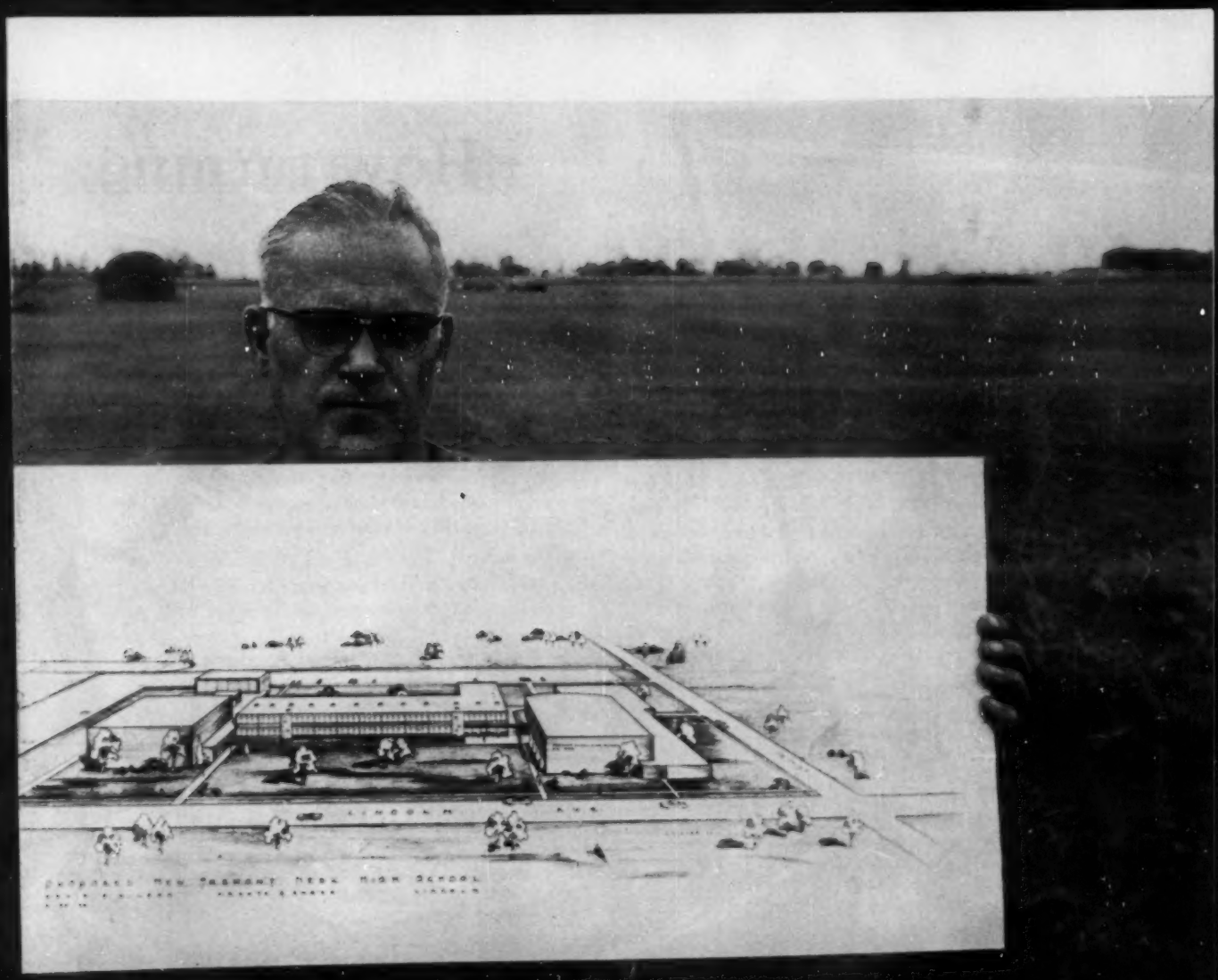
FIGHT Editor Walker upset plan by raising issue of educational fundamentals in a series of editorials just before referendum.

New School

FREMONT is searching its community soul these days, looking for an answer to what is perhaps the most basic of all school problems.

Like communities all over the country, this Platte River Valley city is grappling with the problems that come from a burgeoning population, from economic prosperity that keeps children in school longer, from the demands of employers who expect a better-educated work force.

But in Fremont the struggle suddenly has taken an unexpected twist. Without quite intending to, the town finds that it has committed itself to answer the basic question of what its schools really are supposed to be doing. Its citizens and educators alike are pledged



—What Is It For Anyhow?

to come up with answers to such questions as these:

• What kind of schools should we have?

• What should they be doing for Fremont's children?

• Does the same set of courses that prepares a boy for college do everything it can for the boy who goes to work as soon as he gets out of high school?

• What is the relation, if any, between the physical plant—the school buildings—and the teaching that goes on inside?

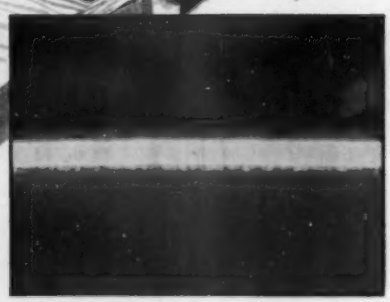
Offhand you wouldn't expect Fremont to be probing these particular questions. Fremont is not Emerson's New England. Fremont is Middle

EXPANSION Fremont has been adding to older buildings. This school, built in 1949, has been expanded twice.

How turning

In the physics department of the Armstrong Research and Development Center, intensity and duration of noise are measured and charted by sensitive electronic equipment. Graphs produced are similar to those shown in the diagram on facing page.

IN THIS PHOTOMICROGRAPH, light-colored band is blur caused by movement of a thin line drawn on edge of untreated vibrating metal panel. Width of this band indicates how much panel moves during vibration.



NARROW BAND in this photomicrograph shows greatly reduced vibration after asphalt-saturated felt paper is bonded to panel surface. Part of vibrational energy is turned to heat as felt flexes with the panel.

sound into heat

helps make metal products quiet

Noise can be a real problem when metal panels are used in a product. Take the sheet metal roof of your car, for instance. It would produce enough noise to make your ears ring . . . would, that is, if science had not found a way to convert noisy vibration into harmless heat.

This quieting is done most often by bonding soft, fibrous materials, such as asphalt-saturated felt paper, to the underside of the car roof.

To understand how these materials work, think first of what happens when you rapidly bend a piece of wire back and forth. It gets hot. Some of the energy you put into bending it is converted to heat as tiny particles in the metal are forced to rub against each other.

The same sort of thing takes place in a sheet of saturated felt paper bonded to a vibrating metal panel. As the felt flexes back and forth in unison with the panel, the felt fibers rub against each other. The friction developed by these rubbing fibers soaks up a large part of the panel's vibrational energy, turning it into heat. Since the vibration is deadened or damped, much less noise is produced.

Fortunately, you can suppress a lot of noise and make only a little bit of heat. It has been estimated, for instance, that the heat generated in an hour by the felt on a typical, continuously vibrating panel would not be enough to raise the temperature of a teaspoon of water 2° F. Yet the amount of sound eliminated in such a case could make the difference between an automobile ride you would enjoy and one you wouldn't.

The principle of vibration damping is simple and workable. It quiets . . . and makes products seem more substantial, less "tinny." And it's adaptable to all sorts of products . . . household appliances, metal furniture and cabinets, automobiles, and many others. Of course, the specific variables involved must be properly evaluated before top efficiency can be achieved in any particular case. That's why the many years of Armstrong experience and research in vibration damping and related sound control problems can be so valuable to manufacturers. For suggestions about your vibration damping problems, write to Armstrong Cork Company, Industrial Division, 8208 Indian Road, Lancaster, Pennsylvania.

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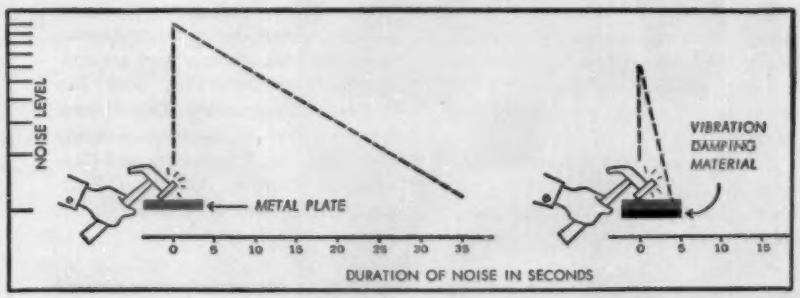
TO DEMONSTRATE how flexing of felt changes vibrational energy to frictional heat, interlock fingers, then move wrists down. Tangled felt fibers rub against each other developing friction just as your fingers do.



CURVE AT LEFT shows what happens when an untreated metal panel is "shock-excited" as by a hammer blow. Noise rises to instantaneous peak, then diminishes slowly as vibration continues for relatively long period.

WITH IDENTICAL SHOCK, level of noise created by the panel after being treated with vibration damping felt is lower at peak and dies out faster (curve at right). Both amplitude and duration of vibration are reduced.

Koppers engineers drained the land and built roads. Then they constructed a chemical plant by supporting all structures on deep-driven pressure-creosoted wood piles. (Even the smallest pump was placed on piles!)

Now, on land that was formerly a total waste, the Williams Plant at Port Arthur, Texas, is producing high-quality ethylbenzene. It's proof that the best engineering skill can overcome the worst obstacles.

Discuss your design and construction problems, whether they are conventional or otherwise, with our Chemical Engineering Department. No obligation is incurred. Koppers Company, Inc., Engineering and Construction Division, Chemical Engineering Department, Pittsburgh 19, Pennsylvania.

KOPPERS

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CHEMICAL ENGINEERING SERVICES

West, 30 miles outside of Omaha, the county seat of Dodge County. Its school problems are neither extraordinarily burdensome nor blessedly light. Mainly, they are problems of growth. Fremont's school population has shot up from 2,314 in 1947 to 3,350 today. Obviously, that's a load on any school system, but Fremont has the economic muscle to carry a load. Its schools always have been good. Like most Middle Westerners, its citizens have been proud of their schools and ready to pay for them. There's no problem of suddenly upgrading from poverty levels, no question of a racial issue, no need for blasting through the apathy of resentful taxpayers.

• **Surprise**—For 17 years Fremont voters had never turned down a request for more money to build additional school capacity.

Then last April, a $1.6-million bond issue for a new high school failed to get the necessary majority for adoption. That was what suddenly put Fremont into the business of examining the basic philosophy of education and coming up with an answer to the question of what modern schools are all about.

I. The Buildup

Nobody suspected booby traps when Fremont started planning its new high school last year.

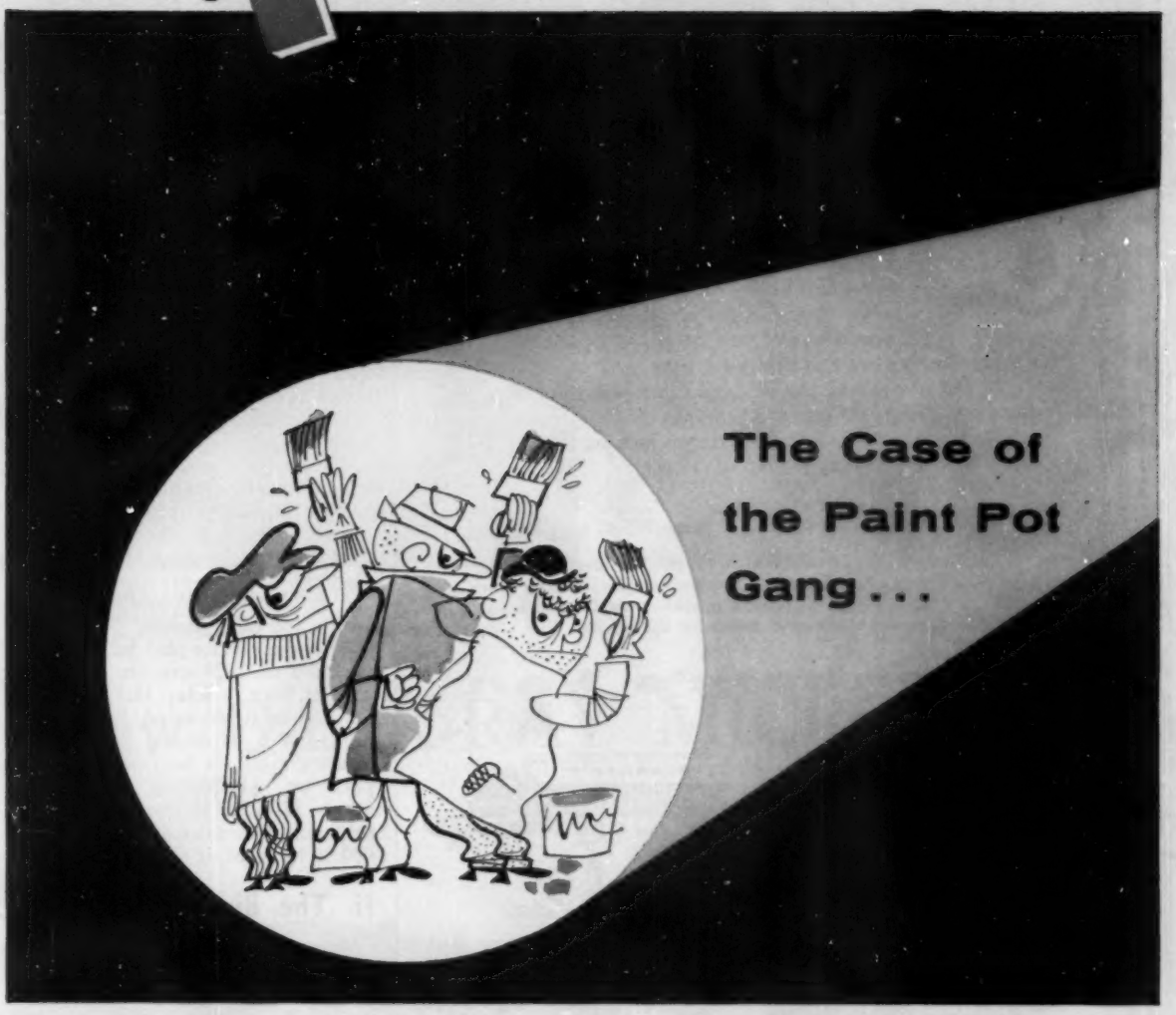
True, the construction of an entirely separate building represented a break with previous policy. From 1947 to 1955, Fremont had coped with its rising school population by adding to existing buildings and then adding to the additions. By this method it had increased its total of elementary classrooms from 44 to 66, with another nine rooms in the works. The tack-on-another-room method had provided extra space in a hurry. And it had reassured doubtful citizens who feared that the town would bet too heavily on population growth and over-extend its facilities.

• **The Case**—But by 1955, the case for a new high school looked iron-clad—at least to the school board. The same children who had bulged the enrollments of the grammar schools and forced additions to them were coming up to high school age. And high schools—with their labs, libraries, shops, and special equipment—don't lend themselves to patchwork additions.

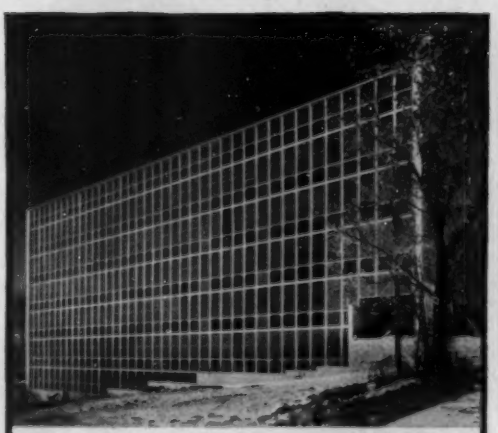
Moreover, a look at the vital statistics made it plain that Fremont's population gain was not just a statistical freak. No matter how you manipulated the figures, they added up to just one thing: More and more people were moving into Fremont, and the people were having more and more children.

Fortified by the figures, the Fremont school board called on the University

A building "Whodunit"



■ The wiping out of the Paint Pot Gang solved an extortion plot. Using tools of their trade—ropes, buckets and ladders —the Paint Pot Gang employed a "cover up" which padded building maintenance costs. Every gang member was a repeater, regularly exacting a toll from business. An alert architect fingered the gang when he specified Ceco Aluminum Curtainwall Construction. The maintenance ring was broken, since walls of aluminum windows and panels need no painting. Result: lower maintenance costs. There was an extra payoff, too, because the thinness of Ceco Curtainwalls yields 5% more floor space for realtors to sell . . . business to use. Case closed. See Ceco for help on *your* building problem.



Shapiro & Tisdale, Architects — Manuel Lasky, Contractor

Ceco Aluminum Curtainwalls . . . networks of windows and panels . . . enclose the Meramec Building, Clayton, Missouri. Result is enduring beauty of line and color. Another reason to use Ceco for your next building: Curtainwalls hang from floors, and Ceco is the only window manufacturer which had its beginning in the floor framing business. So Ceco engineering assures better construction.

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No wonder the lady is carefree on moving day. She's moving the easy BURNHAM way.

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Service to 48 States

of Nebraska Teachers College and the Nebraska State Dept. of Public Instruction to make a survey of its school needs. The survey team came up with a package proposal for letting the junior high take over the present senior high building and for constructing a new senior high school on a roomy site toward the east side of the city.

• **Committee**—The school board then followed a procedure that has become familiar to thousands of doggedly devoted parents over the country. It convened a citizens' committee of 29 members, headed by Willard A. Witte, head of the local Coca-Cola bottling plant. Members included representatives of the community at large, the Parent-Teachers Assn., the United Packinghouse Workers (Hormel is one of Fremont's big employers), Rotary and other service groups.

The committee, a little bewildered but thoroughly game, set about the painful business of informing itself on modern styles in education. It made bus trips to other Nebraska cities—Lincoln, Hastings, Omaha—to inspect facilities and get ideas. It consulted with the faculty and other experts.

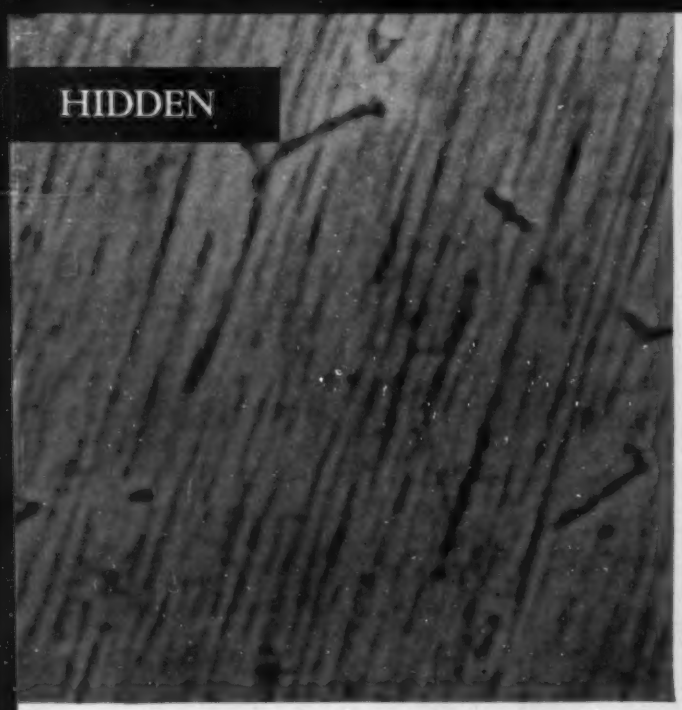
The result was a plan for a rambling structure on a 25-acre site at the east edge of town, a setup that the professionals heartily endorsed. Specifications called for a swimming pool and for separate gyms for boys and girls. The price tag: $1,950,000, with approximately $300,000 to come out of funds previously accumulated, leaving $1,650,000 to be voted as a bond issue.

II. The Big Surprise

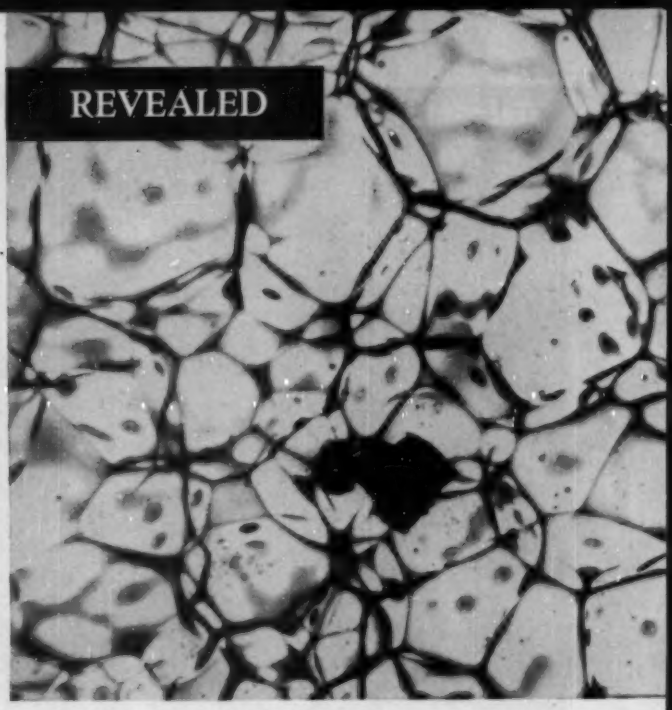
A week before the vote, the campaign seemed to be ticking away perfectly. There was no organized opposition. Even taxpayer protests were relatively feeble. Fremont's school costs have about doubled, from $288,280 in 1947 to $549,058 in 1955-56; but assessed valuations have risen even more, and so the school tax levy has dropped from $29 per $1,000 in 1947 to $20.75 in 1955. A week before the vote, everything came unstuck.

The man who did the unsticking was Lester A. Walker, publisher of the local paper, the Fremont Guide & Tribune. Some people have a peculiar knack for selecting the one question that will be most keenly embarrassing. Small children have this gift; some women do, and a few newspapermen. Lester Walker displayed it, fully developed and exquisitely timed, when he asked just a week before the vote the one question that is calculated to knock a school bond issue in the head: Just what educational job do the schools think they are doing, and where does this new school fit into that job?

• **Editorials**—His questioning took the



ORDINARY LIGHT MICROGRAPH (100 diameters) of aluminum-tin alloy shows only surface scratches and tin that occupies the grain boundaries of the aluminum.



G-E X-RAY MICROGRAPH of the same sample with same enlargement clearly reveals the complete grain outline of the alloy. Exposure time: ten minutes.

New G-E X-RAY MICROSCOPE

opens exciting new fields of research

FROM the time of Roentgen, experimenters have sought to focus x-rays to overcome the resolution limitations of long waves of light. Now, General Electric has developed a practical x-ray microscope that reveals and magnifies structures invisible with light or electrons.

Based on shadow projection, the G-E x-ray microscope magnifies the entire area under observation . . . *all in focus.* Direct Polaroid film recording permits speedy surveys. Higher contrast and resolution are effected with conventional film or plates. Photo enlarging, if necessary, introduces minimum graininess. And stereographic presentation is possible, even at the highest magnification.

Both magnification and resolution are comparable to those of the best optical microscopes. Specimens do not have to be placed in a vacuum chamber. The entire structure can be seen at once — no need for serial sections.

This versatile laboratory instrument opens new research and development possibilities in metallurgy . . . in organic and inorganic chemistry . . . in medical and biological research. Ask your G-E x-ray representative for help in analyzing the x-ray microscope's potential in your program. Or write X-Ray Department, General Electric Company, Milwaukee 1, Wisconsin, for Pub. AO-94.

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T-6

form of front-page editorials, appearing daily. The first one set the tone:

"We are not convinced the problem is acute enough to warrant full-fledged support of the issue under existing circumstances. We are convinced the problem has not had the benefit of thorough research and study. We are convinced it takes more than sticks and stones to provide proper educational facilities for Fremont children. We are convinced that a long-range educational program cannot be worked out in 60 to 90 days."

With this theme, Walker tapped a rich vein of argument and criticism. For years, the universities, echoed by a good many parents, have been complaining about the quality of the students that the country's high schools are feeding into them. The typical student, say the college-level educators, doesn't know how to study, often doesn't know how to read.

The University of Nebraska reports that in the past year it had to assign three out of four freshmen to remedial English courses, give 20% of them a course designed to teach them how to read, and give some 500 students noncredit remedial math courses.

Walker explored this vein in subsequent editorials and then popped another version of the same question. Pointing out that only 35% of the Fremont graduates go on to college, he asked: "Should Fremont's new school basically be one to properly prepare the one-third for college or the two-thirds whose schooling will end upon graduation? Or should separate and distinct courses be carefully and properly charted to fulfill the needs of both groups?"

• **Dead Duck**—That tore it. The school board tried frantically to counter with statistics showing that Fremont graduates did well in college. It invited Walker to appear before it and amplify his views. It pledged itself to secure a consultant, to survey student weaknesses, and to instruct the consultant and architect to work together on making the physical plant serve the educational philosophy.

Walker on his part did a last-minute switch and editorially urged approval of the bond issue on the day before the election.

But by then the bond issue was a dead duck. Education is a vote-getter in the U. S., and voters will dig down for almost any amount as long as they think it has to be done. But the one thing they can't stand is the thought that their school dollar is going to waste —or what is worse, that it is being wasted on gold plating when it should be spent on fundamentals. The trouble, of course, is that no one is quite sure what the fundamentals are. And when that knobby question comes up,

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"Sorry to bend your ear this much," he apologized.

The Credit Manager "takes" a loss

"Sit down, John." The Treasurer seemed almost too affable, and the Credit Manager felt uneasy as he took his seat. "John—" the Treasurer looked uneasy, too "—I'm faced with a problem. Costs. We've *got* to cut them."

The Credit Manager wanted to look away, but he met the Treasurer's glance.

"Volume is good," the Treasurer went on, "but with costs still rising, our profit margin is slipping. So—" he laughed unconvincingly "—the Board has given me the chore of chopping costs. Nothing but essentials must remain. That," he concluded, "is where *you* come in."

"At least," the Credit Manager thought, "he didn't say it's where I go *out*!" Then he realized he hadn't been listening.

"—with Credit Insurance, we've been paying for protection where we haven't had any losses to amount to anything for years. I'll have trouble justifying this." The Treasurer looked reproachful.

"Justify Credit Insurance?" The Credit Manager spoke with an appearance of calm. "First, there *was* the matter of using our insured Accounts Receivable as collateral for that sizable loan last year." He smiled inwardly as the Treasurer looked away. "Then, there *is* the matter of our increased volume over the past four years. Next, our control of losses—" he stopped as the Treasurer held up a hand.

"John," the Treasurer sounded regretful, "you make an excellent case. Nevertheless, something's got to go. In your department, Credit Insurance is the only thing I can see that's—uh—expendable." He held up his hand again as the other seemed about to speak. "Now, if you could insure just our marginal accounts . . . But *something's* got to go!"

• • •

The Credit Manager looked ruefully at the man from American Credit Indemnity. "Sorry to bend your ear this much," he apologized.

The American Credit man looked thoughtful. "*I'm* not sorry at all," he said, "because I'm sure we can help you. Not by accepting only your marginal accounts, because that would not be good for you or us, but simply by raising your primary loss."

"*Raising* our loss? Good grief, Joe, I couldn't agree to a thing like that!" The Credit Manager sounded anguished.

The American Credit man was amused at the other's reaction. "The expression isn't 'loss', John, it's '*primary loss*'. Remember?" The Credit Manager nodded. "Well," the other went on, "by raising your primary loss, we can reduce your premium, and you'll still be getting protection where you *need* it most: on all amounts above — say, twenty-five thousand dollars."

"Hmm! I never thought I'd be glad to accept anything higher that had the word 'loss' in it, but this sounds like a good solution, Joe!" The Credit Manager smiled for the first time, "and even if we raise the loss in *that* sense, we'll still have the door barred against really serious losses!"

• • •

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the voter is more than likely to turn stubborn and save his money.

The final balloting on the Fremont bond issue was 2,683 for the bonds, 2,561 against. Nebraska law requires bond issues to carry by 55%; Fremont fell 201 votes short.

III. Picking Up the Pieces

Surveying the wreckage, the school board decided to try again. But it also decided that it would have to get down to the fundamental question and riddle out some sort of answer before it went back to the voters.

Arthur Stark, president of the board, puts the blame for failure on Walker but adds, "Since it was defeated, we ought to take a real good second look."

Stark, manager of the local Texaco bulk plant, member of the board for 15 years and president for eight, has his own ideas on what adds up to good education: "Good modern facilities for students, a good, well-rounded opportunity for students to develop themselves physically and mentally as far as the taxpayers' money and support will permit."

But the public doubts remain. What is a good, well-rounded opportunity? What do you need to make a university happy? What should you be giving those students for whom, in the educator's jargon, secondary school is terminal?

• **Research**—To settle these questions one way or another, the Fremont school board has started a research project. It has retained the University of Nebraska Teachers College as consultant.

This week, questionnaires were going out in batches of 500 a day to more than 2,000 graduates—and to drop-out students whose replies could be even more significant. The board is asking these ex-students to put their fingers on shortcomings in their schooling, to say what they think they should have had and didn't get.

Meanwhile, members of the Fremont faculty are being asked for recommendations, based on their own experience, for strengthening the schools and their teaching methods.

Out of all this, the board hopes to get some answers that will make sense to the voters. If it does, communities all over the country will prick up their ears. For Fremont has no monopoly on school problems. Indeed, in many ways, its problem is a fairly easy one, fundamental though it is.

Financially, Fremont is in good shape to carry the extra school costs. Money is not its major problem. But for many towns, money looms so large that it overshadows everything else. For a sample of that problem, take a look on the next page at Syracuse and its suburbs. END

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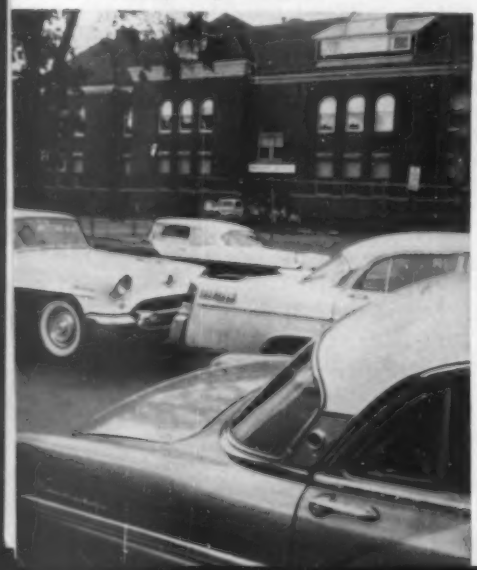
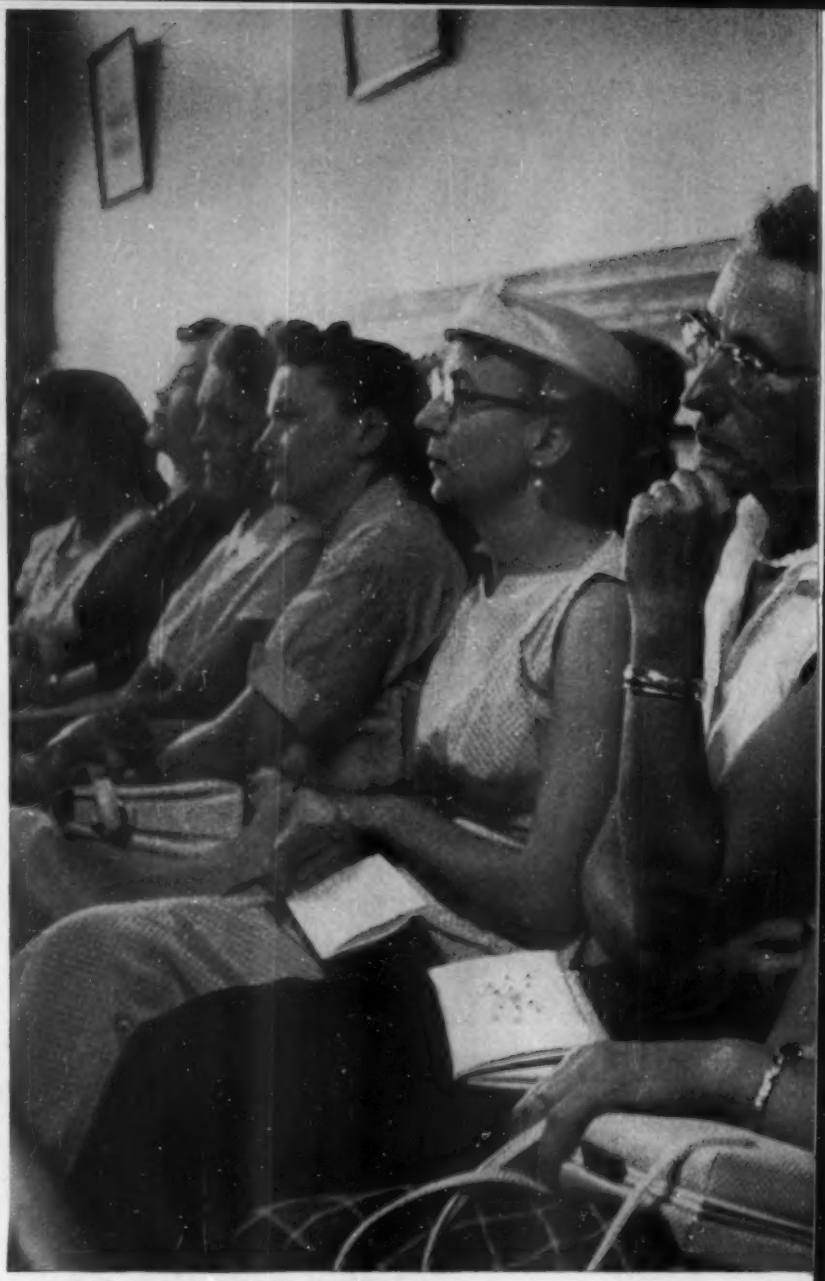
A CITY'S PROBLEM

SUBURBS are built up of small homes like these west of Syracuse. Such homes produce lots of children, not much taxes.

FLOOD of pupils means new schools. West Genesee H.S. (above) cost $2.6-million a year ago, is already crowded.

BUT OLD SCHOOLS live on in congested city streets. This one in Syracuse (below) is nearly 60 years old.





City and Suburbs Face the School

SOME CALL IT the iron circle, and some call it the doughnut. Either way, it means a ring of fast-growing suburbs, with the older city in a hole in the middle. Particularly in taxable assets and in school systems, the city finds itself boxed in—and the two things work on each other, as Syracuse, N. Y., is finding out.

Syracuse and its Onondaga County suburbs (pictures) typify the predicament of metropolitan areas all over the country:

• City population grows slowly; suburban population expands explosively. New industries favor the suburbs—there's more room to grow, land is cheaper, living is pleasanter.

• Families with children move to the suburbs, leaving the city with downgraded housing and a mixture of vacant classrooms in some districts and overcrowded schools in others.

• Teachers, too, leave the old city schools for the shiny new suburban campuses, forcing the city to bid higher for their services—another budget problem.

• The suburbs have to build new schools at top speed to keep pace with the influx of families. Yet the new development houses yield in taxes only

WHAT TO DO ABOUT IT

MOTHER speaks up at Syracuse hearing on building new technical high school.

CARL ROTH, former head of Manufacturers' Assn., urges city council to approve.

OPPONENT, William Remstein, pictures disaster if street is closed to fire trucks.

Jam Together (Story starts on page 84)

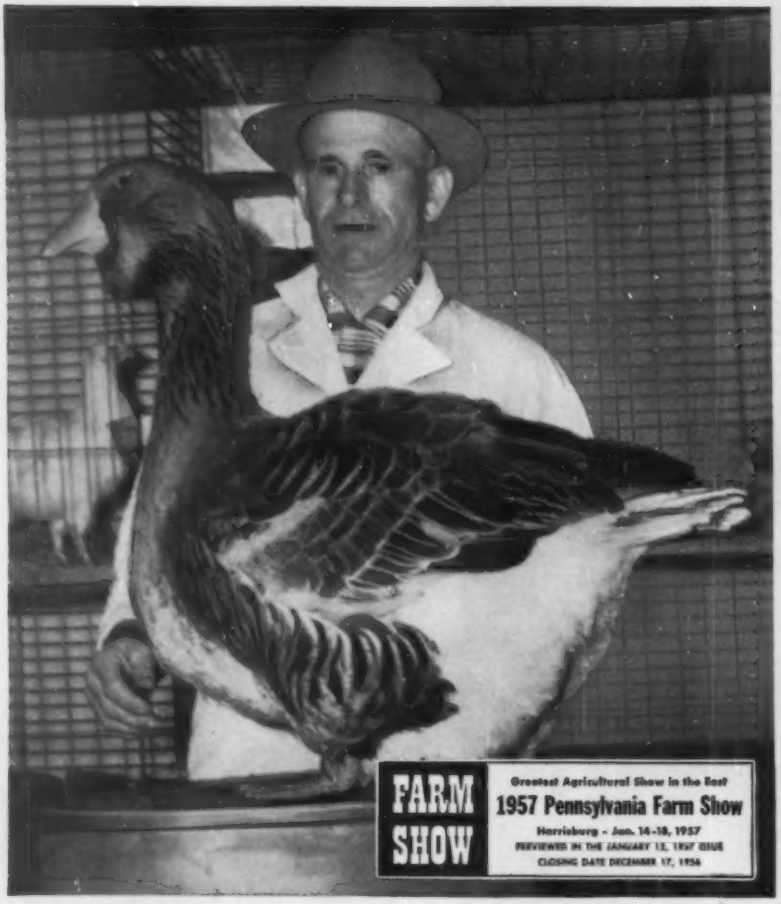
a fraction of what it costs to educate their two or three children per family.

• **Home to Roost**—The case of Syracuse vs. its suburbs neatly points up an irony of such situations. Families leave the city for two reasons: (1) to escape high city taxes and (2) to get a better education for their children in suburban schools. They get caught on both counts:

• In Syracuse, the school tax rate stays generally constant at about $18 per $1,000 of assessed valuation; all taxes add up to about $50 a thousand. In the suburbs, school tax rates of $35 to $40 a thousand are typical, thanks to tremendous boosts in the cost of building and operating schools; in some areas, all taxes add up to $100 a thousand.

• Some city schools are overcrowded and understaffed, but there's none of the surge of school enrollment growth that makes some suburban schools inadequate before they're finished.

As one suburbanite said with a sigh: "You build nice new schools. That attracts more people. The schools get overcrowded almost before they're built. Then you have to build another one. That means a new bond issue,



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and the tax rate has to go up. But what can you do about it?"

The city, too, faces a rise in school costs—some for buildings, some for keeping its older schools in decent repair, some for offering better salaries that will hold teachers on the staff. And the city fathers fear to raise tax rates lest they spur the movement of people and industries from city to suburbs. There's a limit to how far you can push the taxpayer, but no one knows what it is.

I. Lopsided Growth

Industrial and commercial growth is much cherished by school administrators. Factories, stores, and offices pay taxes but don't send children to school. The ideal is a well-balanced community of businesses, older families, and young families in the child-rearing years.

For metropolitan areas like Syracuse, the imbalances in this combination are getting sharper every year. The suburbs get most of the new businesses, but far less than they need to offset the inrush of school-age families; the cities stagnate while old schools grow older and operating costs go up.

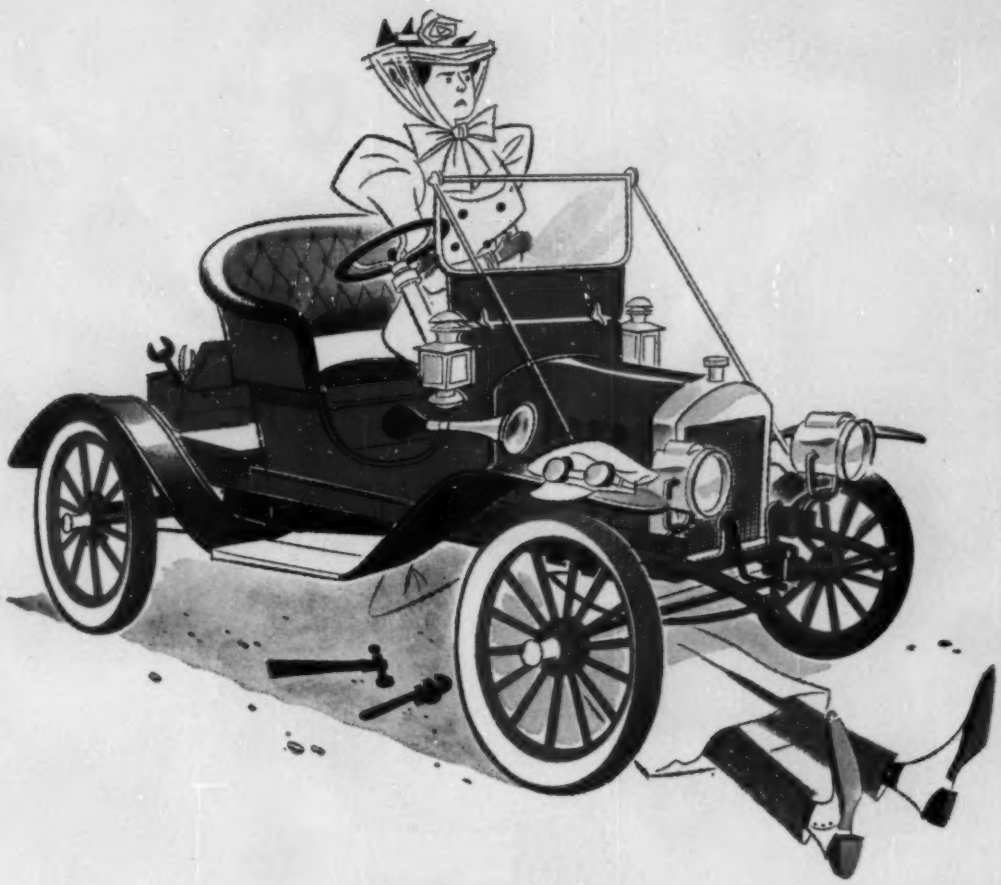
• **Cold Figures**—A drive around the "iron circle" of Syracuse will show you what the cold census figures say: Since the 1950 census, the outlying part of Onondaga County has grown from 110,000 to 150,000 while the city itself has grown from 220,000 to 230,000. The suburbs are growing at a rate of about 7,000 per year; the city at around 1,600 a year.

Or look at industrial employment. Just before the war, Onondaga County provided about 34,000 factory jobs, and two out of three of these jobs were inside the city of Syracuse. Now there are 61,000 factory jobs and, according to the Manufacturers' Assn. of Syracuse, 54% or 55% of them are outside the city. There isn't enough open land within city limits to accommodate such plants as Carrier Corp.'s new $12-million plant at Industrial Park, just east of the city, or General Electric Co.'s Electronics Park near Liverpool, northwest of the city.

Assessed valuations show the same trend. The county has gained $148.7-million ratables over the past 10 years; the 19 towns outside the city of Syracuse account for $93.2-million of this gain.

• **The Difference**—Unlike the gain in valuations in the city, however, the expansion of suburban tax rolls has made costly demands—for streets, sewers, water mains where none existed before. And for schools.

In the 1945-46 school year, the centralized school districts and the two villages—Solvay and East Syracuse—outside the city had a school population



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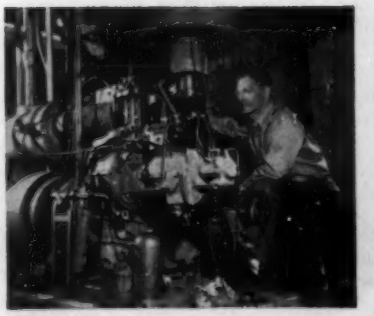

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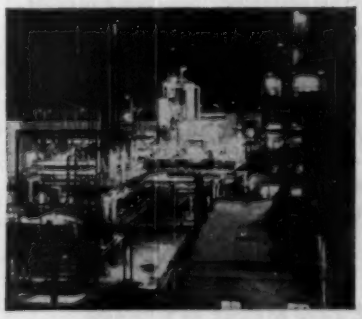

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of 19,280. The city had 29,208 pupils.

In 1954-55, the outlying districts had 35,164 pupils, while the city still had only 30,879. The central districts alone had nearly doubled from 15,968 to 31,264.

Moreover, the shift may be accelerating. School officials in Syracuse say that enrollment, which rose only 1,671 in the 9-year comparison, is currently shrinking at about 600 pupils per year. In contrast, suburban enrollment has without doubt gone far beyond the 1954-55 figure.

II. Paying for It

There's a vast difference in how the city and the suburbs pay for their schools. Syracuse operates under a different law.

In the city, the seven elected members of the Board of Education make up the school budget and submit it to the nine elected members of the Common Council. The council whittles and polishes it, then includes it in the regular city budget, which is adopted after a hearing but no vote by the public. Proposals for capital improvements, such as new schools, must go through the city's long-range planning commission, the over-all planning commission, and finally the Common Council.

For 20 years the Common Council has been following a pay-as-you-go policy that doesn't permit bond issues, except in extreme necessity. Funds for all of the city's capital spending, including schools, are built up in a special account.

In school districts outside the city, the elected boards of education (and, by law, candidates cannot be designated by political parties) make up the budgets and submit them for vote at the annual public meetings. The school boards fix tax rates to raise the districts' share of whatever amount the people vote.

• **State Aid**—For the next calendar year, the city will be holding hearings this fall on a school operating budget of about $13-million. Part of this won't come directly from city taxpayers—this year the city is getting about $3.7-million in state aid. But the city doesn't get any help in capital spending.

However, the districts outside the city benefit far more from state aid for both operating and capital expenditures. In the average district, more than half the budget comes from state aid.

That's because the state aid formula is weighted to give more help to districts that are theoretically less able to pay their school costs. It particularly favors centralized rural districts.

• **Taxation Without Opposition**—Nevertheless, school costs are going up fastest in the suburbs, and state aid, being based on a previous year's attendance, always lags behind the need. In West Genesee Central District No. 1, the budget has risen $115,000 above last year's $1.6-million; in North Syracuse, it jumped $700,000 from $2.5-million.

Votes on these budgets show how readily annual meetings still approve such increases in spending. The West Genesee budget was passed by a vote of 212 to 32, the North Syracuse budget by 181 to 21.

"Basically speaking," says a county official, "young parents will give school boards anything they want."

In North Syracuse district, these young parents have an average of more than three children to a family, with many families having five and six children.

• **Gold-Plated Bathtubs**—Industry that settles in suburbs where tax rates are soaring doesn't seem much worried about the rise. Taxes are deductible on federal returns, and they don't loom so large to corporations as to individuals who are struggling to pay for their new ranch houses.

"Industry is pretty generally interested in supporting education," says Forrest E. McGuire of the Manufacturers' Assn. "But that doesn't mean they're inviting the towns to put gold-plated bathtubs in the schools."

"If you are going to have good schools," echoes a spokesman for a big local company, "you are going to have to pay for them. As to how far you go in paying, I couldn't answer that." This company is by far the largest taxpayer in its school district.

III. The City Schools

The city council, too, is wary of frills in school construction. It was burned, politically, a few years ago when William Nottingham High School, in the eastern part of town, wound up costing close to $5-million, compared with an original estimate of $1.7-million. That's one reason why the proposal to build a $5-million technical high school on a big campus was pared down to a $2.1-million school downtown next to Central High School. It will serve as many pupils but won't be so fancy.

Even so, the skeletonized project was approved last week by the Common Council only after a hot three-hour hearing (pictures, pages 96 & 97) and a reversal of vote by the council.

• **Pros and Cons**—Twenty-one persons attended the council's hearing, 14 in favor of the technical school and seven against it.

Those in favor included Dr. Paul A. Miller, city superintendent of schools;

Harry Marley of the Board of Education; spokesmen for the Manufacturers' Assn., organized labor, an industry or two, and the local hairdressers. They pointed out a shortage in skilled workers—one large industry has had to go out of town to get electricians. By failing to approve a technical school, said Marley, the city would be telling prospective new industries: "Stay away from Syracuse."

Opponents argued that the present vocational high school is sufficient (even though it is not accredited), that the proposed expenditure is unwise, that the same money should be used to attract first-class teachers to the older schools. A businessman objected to closing the street that runs between the new school's site and Central High School; another man said children would be trapped beyond help in fires or air raids if the street was closed as planned.

• **Switching Votes**—The school project is contingent on the closing of the street, Linden Street. On July 23, the council approved the street-closing by a 6-3 vote, and the action was hailed as assuring the school. However, a parliamentarian discovered that in this type of legislation a vote of at least 7-2 was needed.

One councilman who had voted against the measure without realizing that his could be the deciding vote now wanted to change his stand, but the meeting had already adjourned. So the decision hung over until Aug. 6, when the vote was 8-1 on the street-closing and the school-building.

• **Millions for Building**—The city's total school load may be static but the components of that total are not. Since 1950, Syracuse has spent $10-million on new schools. Part of it is to replace old buildings; by 1960, all buildings more than 60 years old will have been replaced. But a lot of it is needed to cope with population shifts within the city that don't show up in the total figures.

"People," says Supt. Miller, "are like birds in a tree. All at once they all move. Factories move into an area. People move out. Then you have your problem."

When this happens, the old schools must be kept going because children are still there, but the upkeep costs more per head. There may even be empty classrooms. On the north side of Syracuse, for example, there are 70 empty classrooms, due largely to a shift in religious character of the neighborhood that puts more children in parochial schools, fewer in public schools.

But these classrooms can't be moved at will, and in other districts a crash program may be needed to cope with an influx of pupils. END

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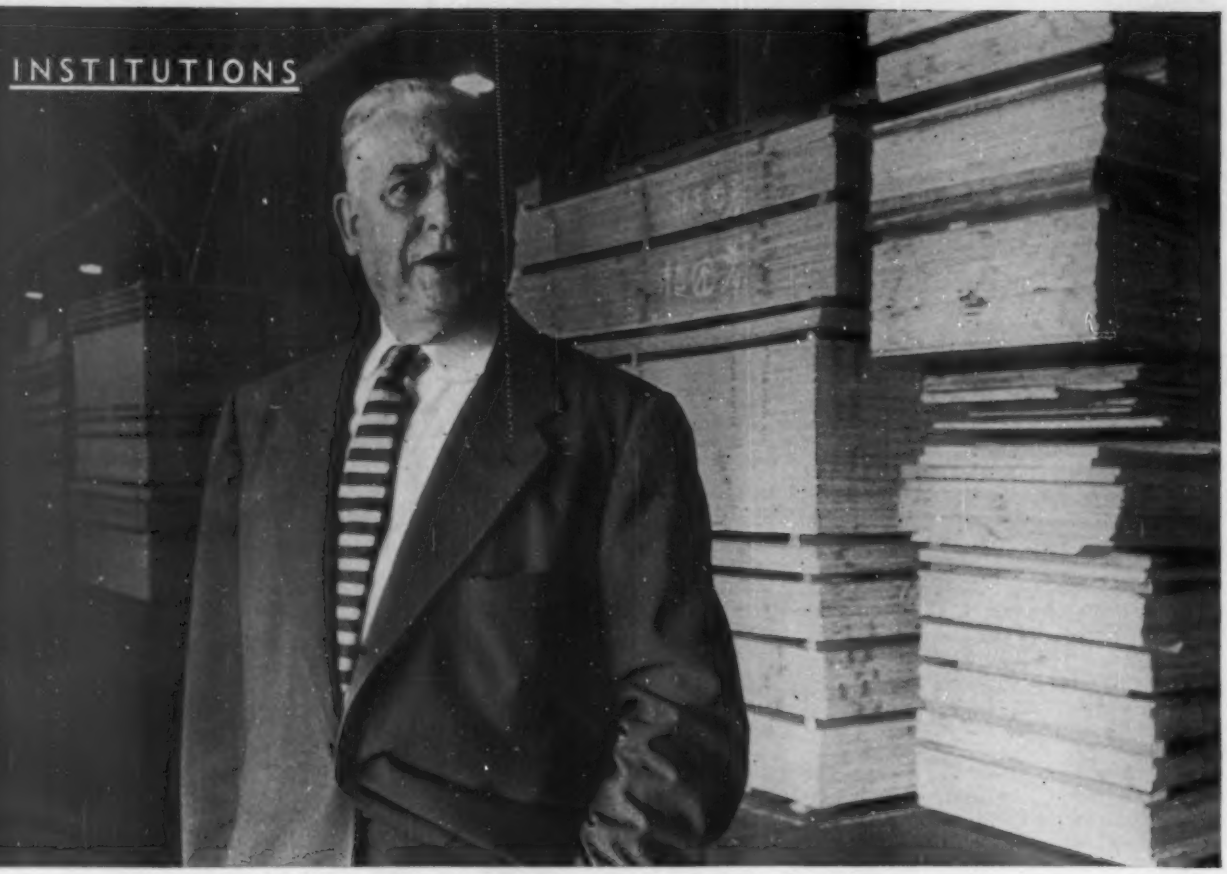


This man, W. E. Difford, sells plywood—but not for a company, for a whole industry. He heads a trade association that is . . .

An Industry's Best Friend

For almost every industry doing business today, you'll find one or more trade associations serving it—as statistician, promoter, policeman, teacher, researcher, or any combination of these common functions.

On the surface, trade associations may seem pretty much alike, but they aren't. There's no "typical" or "average" trade association. The job a trade organization does—and how much of a job it does—depends on the industry involved. And often the role it plays depends on the man at its head.

These two factors are particularly true in the case of the Douglas Fir Plywood Assn., Tacoma, which is managed by W. E. Difford (above). The association is also a good example of the unique function of a trade group within its particular industry.

• **The Industry**—DFPA works for an industry that will gross more than $500-million this year. It has an annual budget of $3-million and a staff of 167, including 33 field salesmen. The industry's West Coast mills will turn out close to 6-billion ft. of plywood this year. The goal for 1960 is 7.5-billion ft.

• **Members**—Douglas Fir Plywood Assn. has 85 member or subscriber mills—some mills subscribe to DFPA's program but are not actually members—out of a total of about 112 mills turning out fir plywood. The 85 mills represent about 90% of total West Coast plywood production. Members pay a flat fee of 70¢ per 1,000 sq. ft. of production. Roughly that's about three-quarters of 1% of mill sales.

For the money they pay, DFPA members and subscribers essentially get two things: quality control and sales promotion. The association functions as the sales promotion and research divisions for the industry. One of the reasons for this is the fact that for the most part, the industry is made up of a lot of producers, no one of which holds a dominating position. And with a few exceptions, the individual companies go right on producing, giving no thought at all to sales.

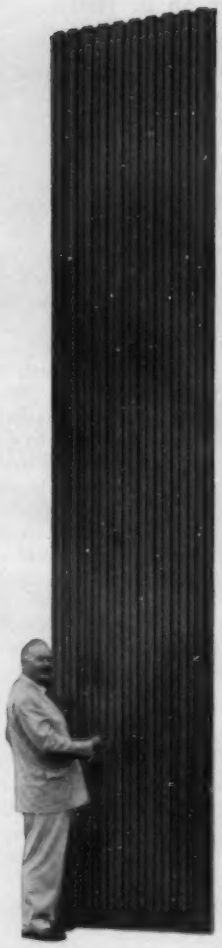
• **Philosophy**—Currently, the association is working out details of a home service plan that will give lumber dealers a complete package of housing plans and merchandising tools. The house plans will stress good design and appearance. And, of course, plywood will be recommended wherever it is logical for structure or appearance.

The program will get under way next year, is a long-range promotion. It's the kind of project that embodies DFPA's promotional philosophy: You have to sell not just plywood, but an idea on how to use the stuff. And in order to reach the consumer, you have to have the distributor on your side.

To get a true idea of the size and

NOW! COLOR

in Alcoa® Aluminum for Industrial Buildings



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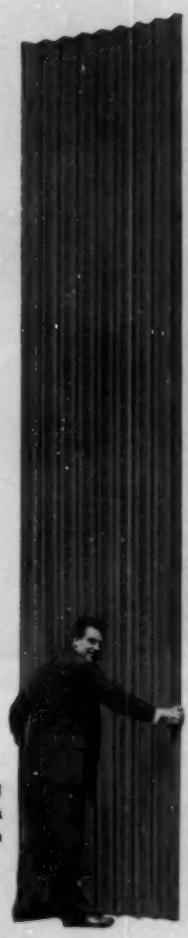

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Your nearby Alcoa sales office has the complete story on new Alcoa Industrial Building Products in the new "sea-green" color. They will be happy to put you in touch with selected Alcoa Approved Applicators who offer a complete service in the supply and erection of these low-cost industrial building materials. Or, write ALUMINUM COMPANY OF AMERICA, 1889-H Alcoa Building, Pittsburgh 19, Pennsylvania.

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- more value for years
- **NEW GREEN COLOR**

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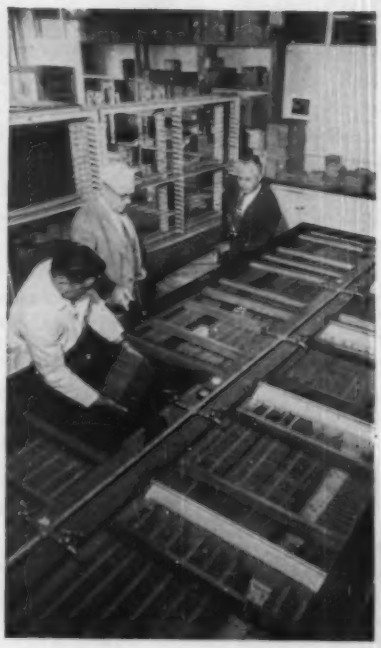
Your Guide to the Best in Aluminum Value

THE ALCOA HOUR
TELEVISION'S FINEST LIVE DRAMA
ALTERNATE SUNDAY EVENINGS

PROMOTION CAMPAIGN is worked out by Difford and his staff aides.

EXPERIMENTAL HOUSE is being constructed by DFPA to test out a more extensive use of plywood.



TESTING of plywood is done by soaking samples and drying them out a number of times, then ripping them apart.

(Story starts on p. 104)

kind of job being done by DFPA, you have to go back to its very beginning. The young—and struggling—plywood industry of a few decades back made DFPA what it is today. And DFPA, in turn, made plywood the healthy, growing industry it is today.

• **From Necessity**—The association was formed by mill owners in the 1930s out of necessity. The infant industry was sent reeling by depression before it could plant its feet solidly on the ground.

Though plywood had its beginnings 51 years ago on the West Coast, it didn't attain size until the early '20s. At first it was simply an adjunct to door manufacturing. The mills began to develop broader uses. Starting in the mid-20s, a dozen efforts were made to set up a trade association to promote the industry's product. But when hard times set in, competing mills found it difficult to get together.

In 1933 an organization called Douglas Fir Plywood Assn. was created. Members contributed funds for promotion, but nothing was done along this line.

• **Agreement**—The recession of 1937 knocked the plywood industry into the dumps. Its leaders were desperate. So they met at Pacific Beach, Wash. And they agreed they would not leave until they had worked out a promotion program. After five days they had one and agreed to underwrite a fund for it.

Then the industry hired W. E. Difford to direct the promotion program. At that time, Difford was managing director of Fir Door Institute, the door industry's trade association.

• **The Manager . . .** —Difford, though trained as a lawyer, early in his career turned to promotion and advertising. His success in breathing life into ailing businesses earned him the reputation of "doctor of sick business."

When he was called in to minister to the sick plywood industry in 1938, its 17 mills were running only two days a week. Mill owners were trying to maintain prices by cutting production. Through DFPA, Difford had additional—and more effective—medicine to prescribe.

• **. . . And the Idea**—As he saw it, DFPA had three big jobs to perform: (1) quality control, (2) promotion, and (3) better utilization of the log. The program he laid out in 1938 is still the foundation of DFPA's work today.

Plywood is a commodity that, when built right, is no different when produced at one mill than at another. A problem for the industry is to make sure each mill measures up to minimum standards.

• **Stricter Grading**—So, one of the first things Difford did was to tighten up the association's grading procedure. When

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he took over as manager of DFPA, the association employed 21 inspectors. For the most part, the inspectors checked only the surfaces of the panels to make sure they were blemish-free.

Difford fired all 21 graders and hired in their place four highly trained specialists to work on grades. The emphasis in inspection shifted from the surface to what the industry calls the glue line. This is what determines the strength of plywood.

The inspectors follow a batch of plywood from the time a log is peeled until plywood emerges. Then they cut out a piece of plywood and send it to a laboratory that DFPA set up to test the glue line. If the plywood is made right, wood rather than glue gives way when it is torn apart.

• **Better Glue**—DFPA's quality control program goes on from there. The association tests glue for manufacturers on a production basis.

DFPA then set up detailed performance standards for various grades of plywood. It has repeatedly raised them.

Each standard carries a registered trade mark, which subscriber and member mills may use.

Before a mill is allowed to use the grade stamp, it has to prove itself during a 60-day probation period in which DFPA checks its equipment, methods, and product. Most important of all, the glue line must come up to standard.

Says Difford: "This police power is one of the keystones of the plywood business."

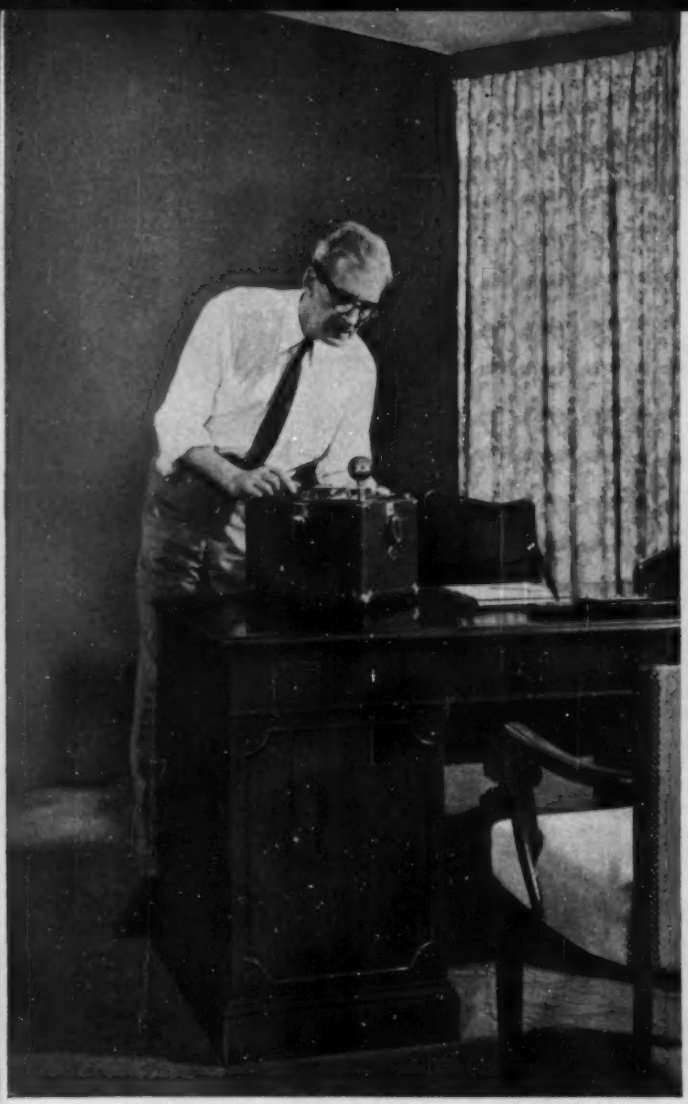
• **Promotion**—Once Difford felt the industry was producing a commodity of uniform high quality, he was ready to start its promoting job.

DFPA's field men, of course, don't carry order books. The men work with building code officials, VA, FHA, military specifiers. They call on lumber dealers, purchasing agents, or anyone who might buy plywood. They tell them how plywood can be used.

Today, DFPA is putting more specialists on its staff—men who are licensed architects, industrial engineers, agricultural engineers, or men who are experienced in selling building materials.

• **Dealers First**—When Difford came to DFPA in 1938, the industry's promotion was aimed mainly at consumers. Difford changed that. He told the industry it didn't have enough distribution to warrant consumer advertising. He shifted emphasis to trade advertising to build dealer outlets. In 1938, there were 18,000 or 19,000 lumber dealers in the country. They knew very little about plywood, didn't push it.

• **Then Consumers**—Today there are about 35,000 dealers in the country, and at least 98% stock plywood. So DFPA has been pushing hard at con-



Independent sound laboratory engineer checks decibel readings in one of many New York executive offices tested.

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If you are planning a new building—or thinking of modernizing an existing one—why not experience a "proof of performance" test for yourself—and take your own decibel readings in a Westinghouse Elevator. Call the Westinghouse office nearest you to make arrangements for this eye-opening demonstration and also learn how you can save up to $7000 per car per year with operatorless elevators.

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sumer advertising in the last two or three years.

The industry learned the hard way that it doesn't pay to neglect promotion when demand for your product is running high, and prices are good. That was the case in 1946 when much of the industry was uninterested in promotion, even though it kept right on expanding capacity. In 1946, Difford also left DFPA to set up his own business. By 1949 the market for plywood had gone to pieces and prices fell off. Business picked up with the outbreak of the Korean War, but slumped again in 1951-52. Though DFPA had initiated a big promotion pitch in 1949, challenge was to create markets as fast as new plants came in.

• **Renewed Efforts**—Difford came back as managing director of DFPA in 1952—and faced the same basic problems in the promotion field as in 1938. He had to make up to the dealers first. "In the fall of 1952," he says, "we tore this place up to get the dealer to identify himself as a purveyor of plywood." A big promotion was launched that year plugging plywood as "today's best buy."

• **Researching Uses . . .**—As rapidly as distribution was built up, DFPA set out to create turnover for the dealer. In 1953 the association started what Difford calls the biggest newspaper advertising campaign ever used for a building material. Here, as in later promotions, plans were supplied to dealers—plans for built-ins, garden furniture, farm structures, furniture, boats.

To keep expanding the uses for plywood, DFPA has architects working on school, church, and housing designs that make maximum possible use of plywood. And now that families have more leisure time and money, DFPA has come up with a set of plans for a summer house.

• **. . . And the Log**—The third phase of DFPA's over-all program is research, mainly aimed at getting better utilization of the log. In the early 1940s, it set up the Plywood Research Foundation. Out of the early research came the semi-dry process for manufacturing hardboard.

Right now the foundation is almost dormant. But Difford is preparing to push again for "pure research."

• **Legal Difficulties**—In addition to its promotional, quality control, and research programs, DFPA carried on a few other activities to bring the plywood industry back to health. But they got it into trouble with the law. In 1948, the Federal Trade Commission charged that in the six years between 1935 and 1941, DFPA, 35 companies, and Difford conspired to fix prices and curtail production.

In November, 1950, after hearing a report from its trial examiner, FTC issued a cease and desist order against

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the association and 15 plywood companies. The association appealed the order on the grounds that by 1941 it had abandoned the practices that FTC had found objectionable. And in 1952, an appeals court lifted the order.

Difford will concede that DFPA was guilty of the charges leveled against it by FTC from a legal standpoint. But he will also tell you that he thought it was criminal to cut down a lot of trees and have everybody lose money. Once the mills got full order books, he says, there was no need for drastic measures.

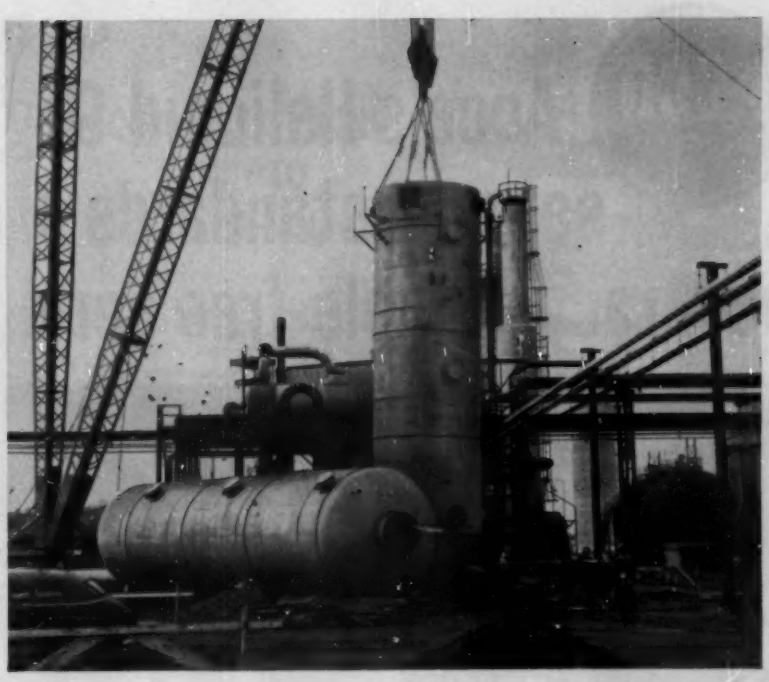
• **Grumbling**—While DFPA has the solid support of its members, there is some occasional grumbling. The chief trouble spot is sheathing plywood, a low-priced unsanded plywood that is used as an underlay for floors, for under roofs and siding. It now accounts for about one-third of total industry output. Some of the sheathing producers are unhappy at having to pay DFPA the same assessment for this product as for a more expensive product.

• **Rebels Speak**—A few major producers feel that maybe they ought to spend the promotion money themselves rather than funnel it through DFPA. One actually served notice to the association that it was going to pull out. The company figured it could save $150,000 a year. But when they asked Difford's opinion, he told the company it would be "the craziest damn thing you ever did. You are not big enough; you do not make enough plywood. . . . You are not ready for national advertising because you do not have enough production to get distribution. Further, your product is not different; it is the same as that of other plywood makers." The company decided to stick with DFPA.

• **Rival**—In the past year a sort of rival organization to DFPA has been set up. It's called the Plywood & Veneer Statistical Bureau, with headquarters at Portland. It reports that it is trying to do some of the things that DFPA has overlooked or declined to do. The group began meeting socially once a month, with sales managers of plywood companies mainly in attendance. Most of its 60 members also belong to DFPA.

The new group puts out statistical reports on orders and production. These differ in one basic way from DFPA's own reports: DFPA reports total orders for plywood sheathing and sanded plywood; the statistical bureau reports the order file for individual mills, without identifying the mills.

• **Job Ahead**—There's weakness in plywood market right now, so DFPA will continue to make its No. 1 job sales promotion. Difford feels strongly about this. He believes industry in general should stop worrying about price competition, stop bellyaching about overproduction, and get out and sell or create new uses for its products. END



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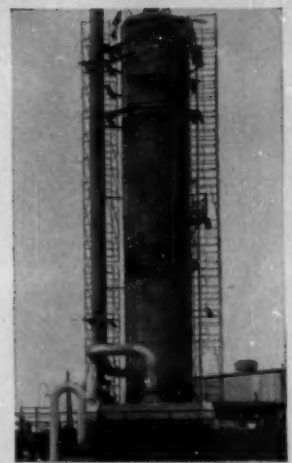

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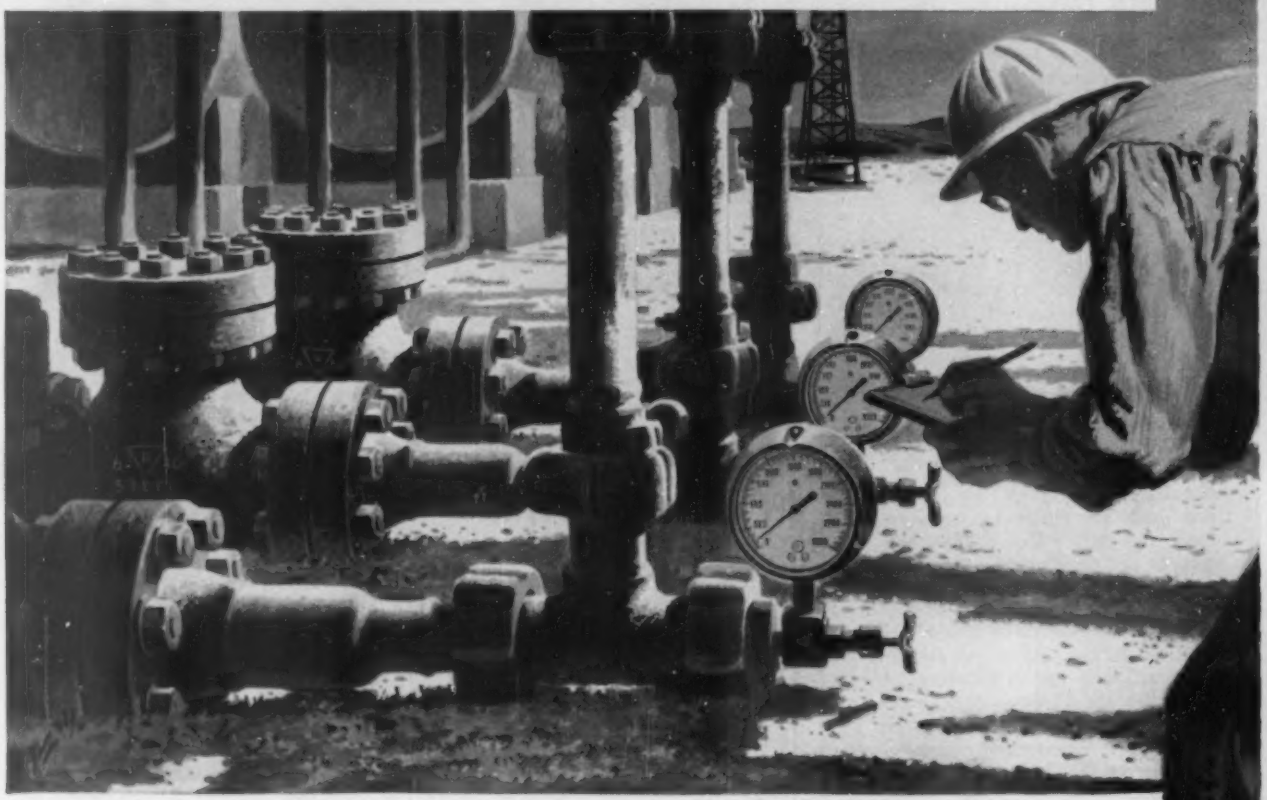

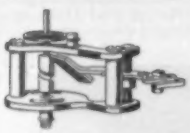

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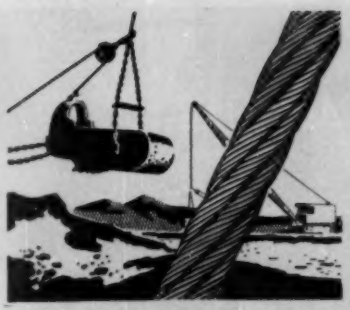

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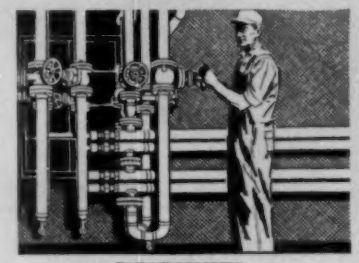

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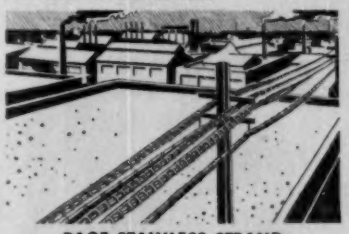

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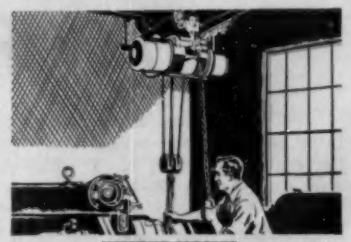

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SPEEDWAY electric hoists are ideal lifting units for loads from ¼ to 10 tons. Most dependable for all jobs. Easiest to service.

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Better Values

PACKING Experts handle everything from the piano to china.

LOADING Vans transport crates to specially equipped planes.

It's just as easy to move to Europe as to move across town, says Seaboard & Western Airlines, which makes a specialty of ferrying whole households and other bulky cargo across the Atlantic.

Air Freight Line Revs Up for

One Wednesday a few weeks ago, three moving vans pulled away from the curb in Croton, N. Y. The vans were loaded with the worldly goods of John N. Stranford, an executive of Esso Export Corp., who had been assigned to Frankfurt, Germany. The same evening, the 12,500 lb. of furnishings were loaded directly from the vans into a Seaboard & Western Airlines' Airtrader. Early Thursday, the plane took off. Next morning, the Stranfords' lares and penates were being set up in their new home.

The Stranfords saved not only time and the back-breaking job of crating, but they saved a few dollars as well. Seaboard & Western handled the job from stem to stern for $6,431.50. Ocean shipment would have cost about $6,436.

This ocean-hop moving, called Air Vanning, is one of the new services launched by Seaboard & Western in its effort to scratch up air freight business all over the world and to make it pay without a subsidy. Since S&W received its certificate of convenience and necessity from the Civil Aeronautics Board last year, it also has inaugurated a network that ties S&W with the Railway Express Agency and 29 other domestic and foreign airlines, so that a shipper in this country can ship almost anything from or to any place in the world. Seaboard & Western itself handles the transatlantic part of the operation.

• **Survival**—S&W is the only all freight carrier across the Atlantic, for the same reason that there are only a couple of operators carrying only freight domestically. Making air freight pay has been one of the toughest nuts to crack in the postwar business boom. Hundreds of World War II pilots tried it, and went broke. Even two of the stronger domestic operators—the Flying Tiger Line and Slick Airways—were almost forced into a merger in 1954 to stave off bankruptcy (BW—Sep.25'54,p32).

S&W survived probably because its management group, headed by

More Transatlantic Cargo

brothers Arthur and Raymond Norden, never took their eyes off course—the development of air freight in every way, shape, and form.

• **Company of Pilots**—The Nordens started dreaming about transatlantic air freight service several years before World War II. Both were in the aviation insurance business in Chicago. But at that time there wasn't a plane available that could fly freight across the Atlantic profitably.

When the war came, the Nordens joined the Air Transport Command, and here they got the experience needed to turn their dreams into reality. ATC was hauling passengers and freight successfully all over the world in a four-engined Douglas transport, the C-54 (the DC-4). This seemed like the equipment the Nordens needed to pull off their air freight operation.

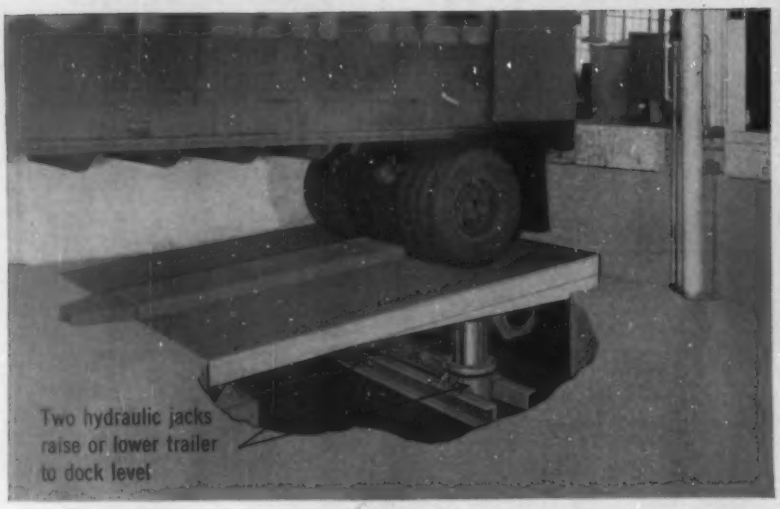
Meanwhile, the Nordens rounded up three more ATC pilots who were interested in the project, and in August, 1946, the five founded Seaboard & Western Airlines, Inc. While all were experienced as the result of their wartime adventures, the founders of S&W were pretty young when they set up the company. Arthur Norden was the old man at 32. His brother was 28. Carl D. Brell, now vice-president for operations, was 27. Warren H. Renninger, vice-president for maintenance and engineering, was 30. And Wallace P. Neth, vice-president for traffic, was 29.

• **Certificate Hassle**—Early in 1947, Seaboard filed with CAB for its certificate as a non-subsidized freight carrier—a certificate that permits an airline to fly a regularly scheduled service, and one not easy to come by. CAB hasn't issued one new certificate for transcontinental trunk operations since it was founded in 1938. After the war, it did issue two for domestic scheduled air freight service, one to Slick Airways and one to the Flying Tiger Line.

Having a certificate is very important. In air transport, it's the cornerstone of a stable business. Without the sense of permanence it gives, it is difficult

NEW ROTARY TRUCK LEVELER

saves loading costs and dock space



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BROTHERS Arthur (left) and Raymond Norden, with three other ex-pilots, run the transatlantic air freight operation.

for an airline to get adequate financing, sell stock, or carry on many other normal functions of business. Without this certificate, the airlines must operate as non-skeds.

S&W's petition was opposed by both Pan American and TWA. Nearly four years later, in February, 1951, CAB finally turned S&W down, but the order to this effect wasn't published until May, 1952.

In June, S&W filed for reconsideration, and Pres. Truman ordered the matter reopened, but the trial examiner didn't bring in his report until early 1954—and once again CAB didn't publish the decision. When Aviation Week, a McGraw-Hill publication, reported that the board had acted 3-to-2 in Seaboard's favor, the Nordens appealed directly to Pres. Eisenhower. Finally, in June, 1955, the White House acted on the recommendations of CAB, and it approved a certificate for S&W.

Seaboard's certificate authorized all-cargo service on Route 119 between New York, Phiadelphia, and Baltimore in the U. S. and Gander, Shannon, London, Glasgow, Brussels, Dusseldorf, Frankfurt, Wiesbaden, Stuttgart, Nuremberg, Munich, Paris, Geneva, and Aurich.

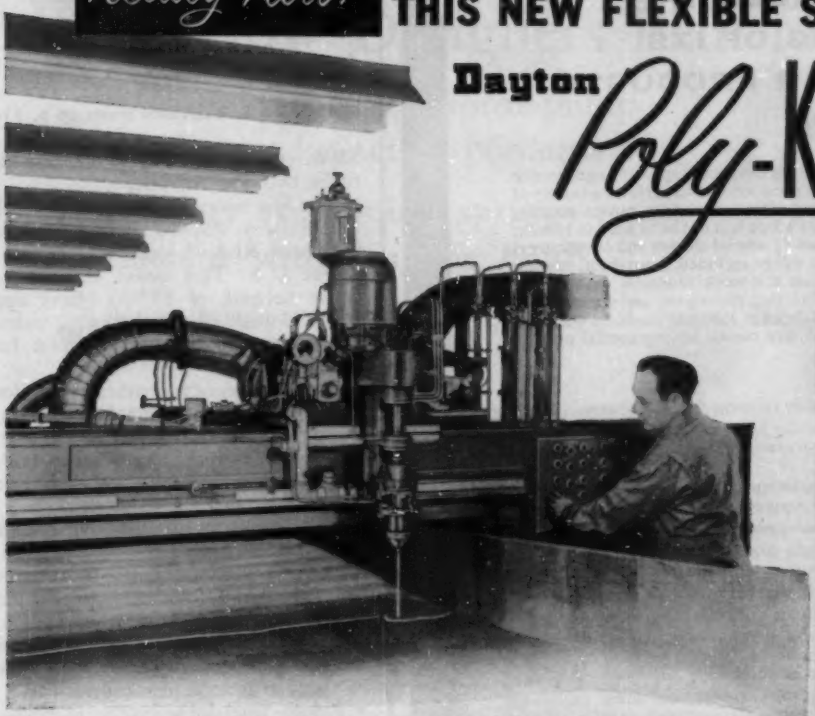
• **All Set**—By this time, S&W had built up a pretty good business on an unscheduled basis. Total revenue topped $13-million in 1953, and after a slump in 1954, climbed to $18-million in 1955. And, through its work in the Berlin and Pacific Airlifts, it had gained a reputation for handling difficult air freight jobs. In addition, it was flying good equipment, and was soundly financed.

Once it got its precious certificate,

Ready Now!

INCREASE SALES AND PROFITS WITH THIS NEW FLEXIBLE SYNTHETIC FOAM

Dayton Poly-Koolfoam®



The machine's mixing head moves back and forth across the inclined mold, depositing mixed poly-isocyanates and polyesters which begin almost instantly to foam into Dayton Poly-Koolfoam.

Finished Dayton Poly-Koolfoam emerging from the giant machine as a "bun" which can be cut to any length, as specified, to be fabricated into an almost infinite variety of products.

With an output capacity of many millions of pounds annually, the Dayton Poly-Koolfoam machine can supply finished Poly-Koolfoam stock in great quantities and on fast schedule.

Be among the *first to profit* from Dayton Poly-Koolfoam by widening your present sales horizons, developing sales of new or improved products, effecting important savings in fabrication techniques.

Using the giant machine shown here... the first such major installation in America... Dayton Rubber is *ready today* to furnish Poly-Koolfoam as finished stock for *your* fabrication, or to manufacture products to specifications for *your* marketing.

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- *Special vacuum furnaces for heat treating*
- *Vacuum chamber for inert arc welding of precision parts to extremely close tolerances for sub-assemblies*
- *Precision machining equipment (largely for milling and turning) accurate to 1/1000 in. in 40 in.*
- *Completely air-conditioned shop*
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- *Vapor and alkaline degreasing facilities*
- *Pickling facilities to handle reactive metals*
- *Rinsing facilities, with high purity de-ionized water for washing all pickled parts to be welded and heat treated*
- *Inspection of intricate shapes, using precision gages and testing equipment, and a surface plate, accurate to 25 millionths of an inch*
- *Special dies for straightening sheet, plate, bar and rod*
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We offer design engineering services in the fabrication of control rod channels, assembly channels, control rods, fixtures, tools and other components required for various types of nuclear reactors, as well as fabrication of subassembly parts, and intricate shapes. We are staffed with mechanical, metallurgical and welding engineers to help you solve your fabrication problems.

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". . . the Nordens focused their attention on building up the common carriage air freight business . . ."

SEABOARD & WESTERN starts on p. 114

S&W really set about to increase its traffic over the Atlantic.

The first move was to hook up with the Railway Express Agency. S&W appointed REA its general sales agent in the U.S. This means that REA's entire network of 15,000 offices and 380,000 miles of rail, highway, water, and air routes generates business for S&W.

Since Seaboard's certificate was for the service between the Eastern Seaboard and Western Europe, the company began to make arrangements with other airlines to assure a worldwide service.

The company signed agreements with 29 domestic and foreign airlines, including Air France and British Overseas Airways Corp. Air France acts as S&W's sales agent in France, 14 other countries of the French Union, and Mexico. BOAC operates in a similar fashion in the British Isles.

• **Payoff**—Seaboard's energy is beginning to pay off already. In the first quarter of the year, freight revenues were up 73% over last year—and scheduled operations didn't start until Apr. 10. It took from June, 1955, until April, 1956, for the State Dept. to conclude landing right treaties in the countries where Seaboard is authorized to operate.

Like other air freight operators, S&W did contract freight hauling for the armed services. But the Nordens kept their attention focused as much as possible on building up the common carriage air freight business.

• **Pioneer**—Seaboard pioneered the carrying of "bulk" freight—whole planeloads of ships' parts, chemicals, explosives, animal hides, electrical equipment, and production machinery. It was the first carrier to move such bulky commodities as small aircraft, helicopters, automobiles, trucks, and oil well piping across the Atlantic.

S&W also developed some interesting specialties. One was the shipment of animals. The airline flew its first race horses in 1947. Since then, it has ferried planeloads of livestock, animals for zoos, and pets. Its biggest publicity came from the transports of monkeys used in the development and production of vaccines, particularly for Salk vaccine (BW—May28'55,p62). The company received a special commendation from the National Assn. for Medical Research for developing the special

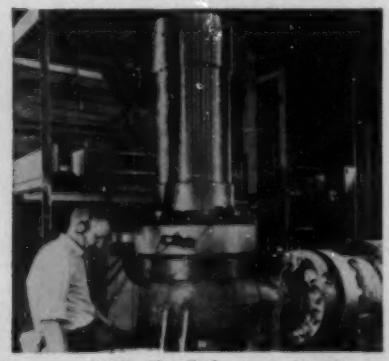
DOW CORNING

SILICONE NEWS

How Designers Plan for Tomorrow

- Silicone insulated motor-pump handles radio-active coolants
- Industry eyes liquid springs made more efficient with Silicone fluids
- New auto transmission seals of Silicone rubber are "boiled in oil"

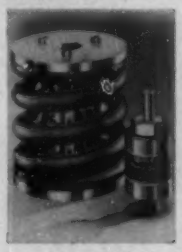
HEART OF THE USS NAUTILUS— Heat energy of radioactive water from the nuclear reactor is circulated under pressure through the steam generators by canned motor-pumps. Water at temperatures up to 675°F circulates through the motor bearings, between the separately canned stator and rotor assemblies and around the stator. Silicone insulated stator windings are protected from the hot liquid by a stainless steel jacket; the rotor by a leak-tight cylinder of nickel alloy. **Canned motor-pumps** with capacities ranging from 5 to 17,000 gallons per minute are made by Westinghouse. Skillful engineering with silicone insulation enables these pumps to handle liquids at system pressures up to 2500 psi. Special units will even handle liquid metal at temperatures



up to 1000°F. Other applications: steam systems involving controlled or forced circulation and some process applications in the chemical and petroleum industries. No. 29

METHUSELAH AMONG MOTORS is a silicone insulated 10 hp motor in Dow Corning's motor test lab. It's still going after more than 58,000 hours at an average copper temperature of 465° F. That's equivalent to over 350 years' operation at regular Class H motor temperatures.

MIGHTY MITES — Liquid filled "Hydra Springs" by Wales Strippit Corporation provide forces 3 to 6 times greater than coil springs of the same size. Dow Corning silicone fluid is specified as the compressible medium for these springs because its compressibility is 9 to 10% at 20,000 psi compared to 6 or 6½% for mineral base oils.

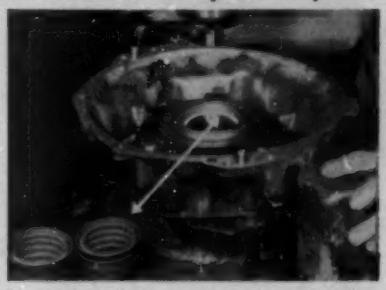


Heat stability was another important consideration leading to the use of Dow Corning silicone fluid. Semi-inorganic, it retains nearly constant viscosity and does not break down despite high operating temperatures. Hydra Springs have already proved highly successful in metal working dies, perforating equipment, testing equipment, ordnance devices and specialized machinery. Other applications are in the offing. No. 30

SILICONE SURFACE — gives glass containers better "slip", reduces jam-ups on filling line, increases filling rates as much as 80%. Also imparts greater resistance to bruising and scratching—cuts line breakage as much as 50%. Leading glass makers now offer containers coated with Dow Corning Silicones at little or no extra cost. No. 31

BOILED IN OIL—Most advanced design in automatic transmissions for automobiles requires greater activity of the oil within the unit. This means more heat. Where old designs operated in the range of 150°F to 250°F, new models average 250°F with frequent highs of 325°F. Seals molded of Silastic*, Dow Corning's silicone rubber, prevent leakage of the hot oil and assure long maintenance-free service.

Amazing as it may seem, this sealing assignment is actually duck soup for a material that stays rubbery and



keeps its shape at temperatures far above and far below the limits of organic rubber. Silastic's range is from —130°F to 500°F. No. 32

*T.M. REG. U.S. PAT. OFF.

GOOD-BYE HEADACHES — Mold cleaning, a costly problem in the rubber industry, has been virtually eliminated by Dow Corning silicone mold lubricants. Here's a typical report from a leading rubber company: "With silicone mold lubricants we never have to clean molds except when we take them out for change or repair." No. 33

TOMORROW'S PRODUCTS — will come from imaginative use of new materials. That's why design, production and maintenance men need the new Reference Guide to Dow Corning Silicone Products. No. 34

Dow Corning Silicones Mean Business!

FOR MORE INFORMATION on silicones used in these applications, circle reference nos. in coupon.

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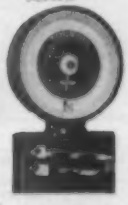


TOLEDO®
HEADQUARTERS FOR SCALES

". . . S&W had good news for its stockholders at annual report time . . ."

SEABOARD & WESTERN starts on p. 114

techniques for the safe and humane handling of laboratory animals.

Another area being exploited by the company is the time-perishable goods field. Hit records, fashions, and novelties can stay on top of today's changing market only through air shipments. And Seaboard says that more and more retailers in the U.S. and Europe are using air for shipment of these goods.

• **Improvements**—This relentless pursuit of air freight is one of the reasons for Seaboard's success. Another is that the airline is doing everything possible to improve its art.

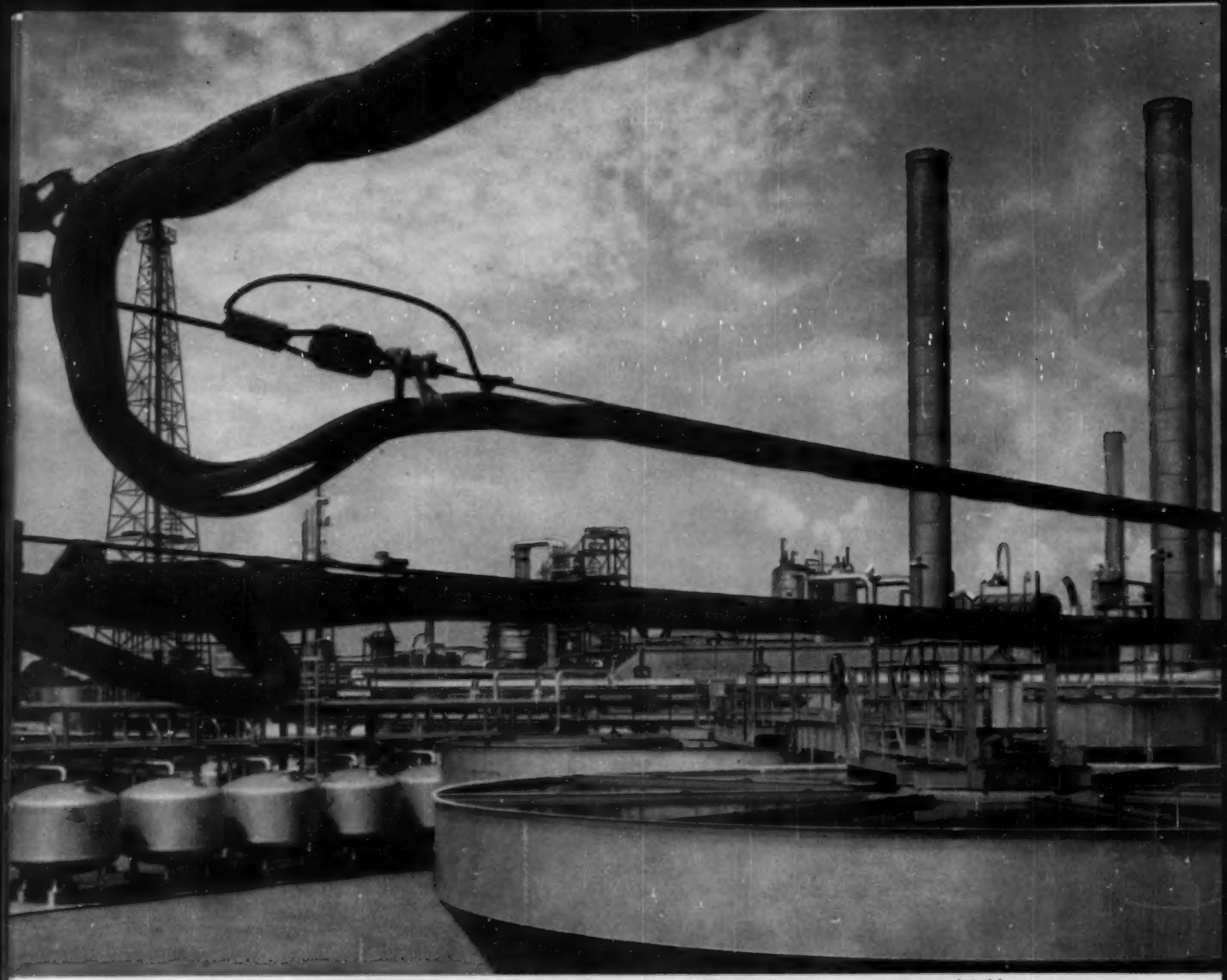
On the equipment side, S&W has engineered improvement in equipment to make better air freighters, and to reduce the weight of the empty plane, thus increasing payload and range. Another improvement was the development of huge cartons that hold from 1,000 lb. to 1,800 lb. Such cargo as furniture is packed in these cartons, which are sealed with wire tape, and loaded directly into the plane's holds. Previously, such cargo was loaded uncrated into padded compartments. This innovation cuts loading and unloading time.

• **S&W's Fleet**—Backbone of Seaboard's fleet today are its Lockheed Super Constellations, which the company put into operation last year. Seaboard now has five of these aloft, and five more on order. The rest of its fleet is made up of five DC-4s.

Another part of S&W's expansion last year was to open new offices in Dusseldorf, bringing its foreign offices up to 12, and increasing its employees to about 500.

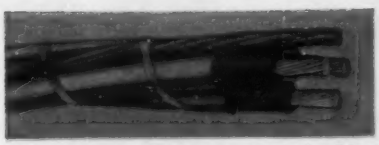
In spite of all this expansion, however, S&W had cheering news at annual report time, last December. Earnings after taxes were $1,967,369, compared to a loss of $364,753 the previous year. Total revenue was $18,479,768. And while special charter flights accounted for a large part of total revenue, regular air freight dollars nearly doubled over the previous year. During the first quarter of 1956, revenues increased 28% to total of $3,607,000, compared with $2,826,000 in the comparable 1955 period.

This spring, S&W lined up some important new financing. It got a line of credit from Chase Manhattan Bank for $5-million, and it raised $3-million by the first public issue of its stock. The 1,080,000 shares were snapped up before noon the first day. END



Power for oil refineries is carried by modern high-voltage cables—such as this Anaconda Aerial Cable.

The cable that beats its worst enemy—*ozone*



Self-supporting high-voltage aerial cable

THE PROBLEM: One of the secrets of the great productiveness of the American worker is the vast electric energy available to the machines he uses. To use electric power most economically, more and more often high-voltage cables are brought right into the plant. Where 220-volt service is adequate for your home, industry uses 5,000 or 15,000 volts or even higher.

The problem is that at these high voltages electricity breaks down the oxygen in the air, forming *ozone*. And ozone attacks ordinary rubber wire and cable insulation . . . causing it to crack as if it had been cut with a sharp knife.

THE SOLUTION: To combat ozone, wire and cable manufacturers for years used a special rubber insulation that did the job fairly well, but at the expense of important electrical properties. Pioneering in butyl rubber, Anaconda engineers were the first to produce a high-voltage insulation with *inherent* resistance to ozone . . . and with all-around excellent electrical properties.

Since 1945, Anaconda has produced millions of feet of butyl-insulated power cable, such as the Aerial Type Cable illustrated, stopping ozone-cutting—the old Number One enemy of cable life. What is more, this butyl insulation's higher heat and moisture resistance enables industry to use more current per circuit . . . to get more power per dollar.

THE FUTURE: Whether it is a new cable for increased power for industry, a new brass (such as Formbrite®) that cuts polishing time in half, new magnet wire for more compact motors, a new form of copper for "printed" circuits, or some other problem in nonferrous metals, Anaconda and its manufacturing companies—The American Brass Company and the Anaconda Wire & Cable Company—are ready to help you. Just call or write to the *Man from Anaconda*. The Anaconda Company, 25 Broadway, New York 4, N. Y.

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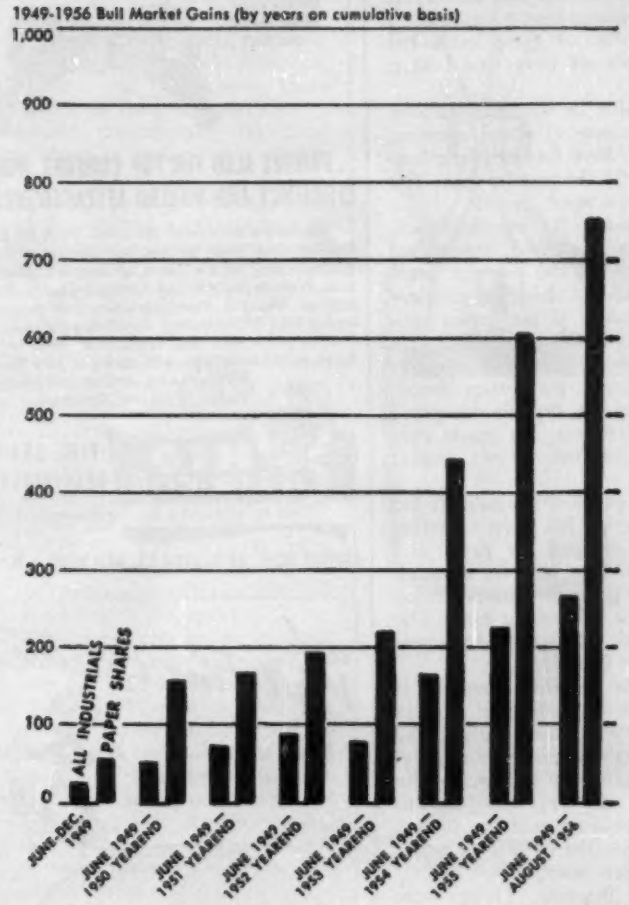
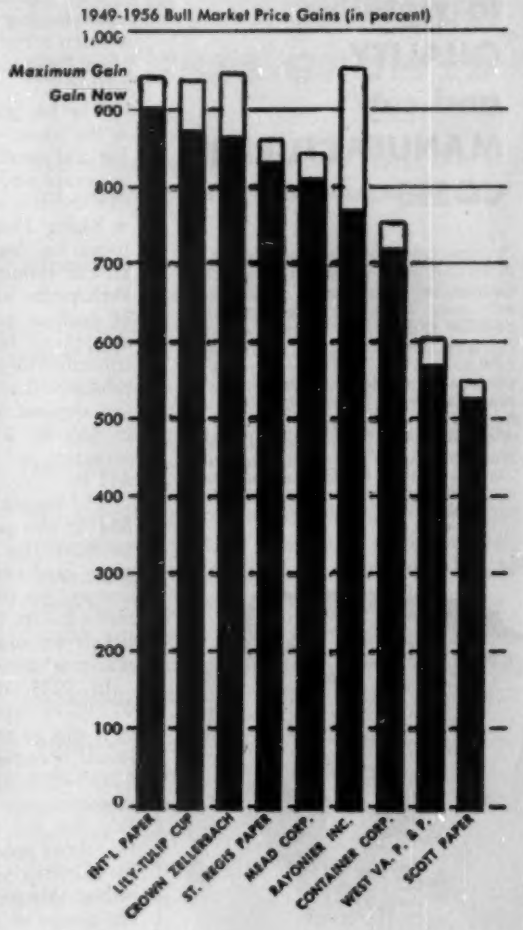
FINANCE

What Wall Street Thinks About PAPER:

In the seven-year bull market, investors have pushed prices of paper shares up nearly three times as much as all industrials . . .



. . . and, though gains have been shaded lately, these issues are still among the bull market favorites.



Data: Standard & Poor's Corp. Weekly Stock Price Indexes.

©BUSINESS WEEK

Overexpansion Could Tear It

The charts above tell one of the real "success sagas" of the biggest bull market of all time. Since the bull market got its start back in 1949—and indeed even before that—paper shares have consistently been in the elite group spearheading the advance. Among the major groups of industrials, only the integrated oils can match their steady, sustained price advances.

Since the bull market set sail in 1949, paper stocks as a group have risen 8¼ times, compared with less than four times for all industrial issues. Individual issues show even more breathtaking gains. The price of Crown-Zellerbach, big integrated West Coast producer with an emphasis on paperboard, has been multiplied by more than 9¼ since its 1949 low. International Paper, biggest domestic producer, shows a gain of 10 times, and Lily-Tulip Cup and St. Regis aren't far behind at better than nine times their 1949 lows.

• **Devoted Following**—You can trace investors' devotion to paper even more distinctly when you realize that they have continued to buy paper shares despite the high price tags—and low yields—on them.

Yields on most paper stocks range from around 3.5% for a handful of small companies to 2.5% and lower for the biggest producers. By contrast, Standard & Poor's index of 50 industrial stocks yields around 3.75%.

Dividends in the postwar decade have been modest, as most expansion in the industry has been financed by retained earnings. This pattern is expected to continue. Of course, while low dividends may be a mark against the indus-

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try now, investors like the fact that few companies are loaded with debt.

• **Prices High?**—Many Wall Streeters, particularly institutions, think that the paper stocks may have actually risen too high in price. "Prices of paper shares have not only discounted good 1956 earnings, but have already discounted some of 1957 earnings," says one analyst.

The research director for one of the country's big investment trusts says: "I wouldn't buy 'em at these levels—but then I wouldn't sell those that I have, either."

The big reason he wouldn't sell now is the same reason so many investors, big and small, have focused their buying on papers for the past 10 years. You can say it in one word: growth.

• **Rising Demand**—By any definition, paper has been a grade-A, gold-plated growth industry in the postwar years. Perhaps the handiest statistical indicator of postwar growth is per capita consumption. In 1945, every American consumed an average of 282 lb. of paper products. Last year, the average American stepped up his appetite for paper to 418 lb. This year, per capita consumption is expected to run around 457 lb.

The biggest problem the industry has had in this period has been in trying to meet this demand for paper and paper products. Last year, for instance, demand for all paper products exceeded mill capacity by 3.7-million tons. The deficit was made up by imports, largely newsprint from Canada.

In 1955, the industry operated at 97.3% of capacity, just about as high as it can go as a practical matter. The lowest operating rate since the war was 82.6% of capacity, and that was in the recession year of 1949. The Korean War hit the industry with an impact that drove production to 99% of capacity just two years later.

• **Not Always Booming**—Things were not always so rosy for papermakers. In fact, it has taken their terrific postwar performance to erase the investors' memory of less happy times.

In the 1920s, newsprint looked like the hottest item in the papermaker's line. Everybody expanded newsprint capacity, and many small producers joined in boosting newsprint output to 1.4-million tons by 1929. Then the Depression hit newspaper advertising linage. In 1933, the industry produced only about half of that—720,000 tons. Capacity was standing idle everywhere.

Newsprint was the hardest hit but by no means the only sufferer from the overexpansion of the 1920s. Paperboard and kraft paper makers suffered, too, as did book and magazine papers. Nevertheless, in 1937, the industry went ahead again with a big build-up of capacity, and once again found itself

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caught when the 1937 revival cooled into a recession.

In 1937, demand barely nosed ahead of capacity for the first time since 1929, but a year later, the industry was running at only 70% of capacity, lowest since 1934. In those days, most producers had to operate at a minimum of around 75% of capacity to clear the high fixed costs of processing wood pulp into papers.

• **New Debate**—While the troubles of the '20s and '30s have been overshadowed by postwar demand for paper, they have not been entirely forgotten. In the past couple of months, those bitter memories have been recalled as the industry contemplates the most gigantic round of expansion in its history.

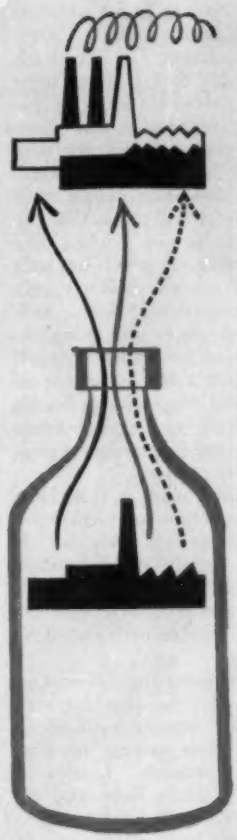
Controversy over these expansion plans centers around a two-year-old report on "America's Demand for Wood, 1929-1975," compiled by the Stanford Research Institute for Weyerhaeuser Timber Co. (BW—Oct.2'54,p84). The report estimated that output in 1975 would total 46.6-million tons, compared with this year's estimated 32-million tons. It visualized biggest gains in production for newsprint, currently in such short supply that it brings as high a premium as $70 over the standard $131-per-ton price, as well as for building board and papers and sanitary papers. Output of paperboard, foodboard, and fine papers would run behind the percentage increases of 1947-1955, according to the report.

But, if these figures are correct—and some industry observers are skeptical—there may be some uncomfortable moments before 1975 rolls around. The Stanford report itself estimates that, in 1960, demand for paper and paperboard would total only 32-million tons. Even though this estimate is now considered to be on the low side, it indicates that there may be some short-range dislocations if current expansion plans continue at their scheduled pace.

• **Overbuilding?**—The American Paper & Pulp Assn. weighed the short-range problem just last month. Its findings would seem to indicate that the industry is planning itself into another period of overcapacity such as has not been seen since the late 1930s.

The association estimates that current expansion plans for the industry will result in a capacity of 35.1-million tons by 1958. This would mean that, even if no further expansion was undertaken for the next two years, the industry would have 3-million tons of excess capacity by 1960, according to the Stanford prediction.

Industry leaders themselves have been warning each other about the dangers of overbuilding. David L. Luke, Jr., president of West Virginia Pulp & Paper, said recently: "Unless expansion



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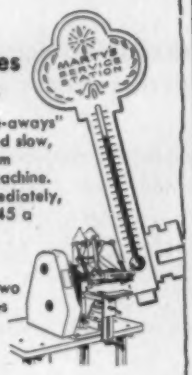
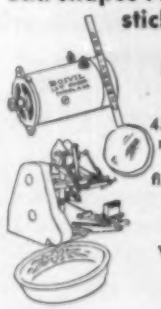


odd shapes . . . from lollipop sticks to solenoids



Object size, shape or irregularity often makes efficient marking a real problem. Markem's 45AG machine is proving remarkably versatile for marking plumbing fixtures, automotive parts and ignition coils . . . lollipop sticks, recessed lids and brushes. Well worth investigating for any difficult job.

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is tempered with good judgment as to timing, the industry could face some of the economic disturbances for which it has been noted in the past." Crown Zellerbach Pres. James D. Zellerbach warns the industry that it faces overproduction ". . . because a lot of people are announcing expansion who have never been in business before and who have never lived through a depression."

• **Long-Range Glow**—Few people in or outside the industry will argue that the long-term picture is not bright. The revolution in packaging, which has seen paperboard and related products substituting for everything from milk bottles to steel drums, is still going on. Newsprint demand has far outstripped output, and despite a drop in new housing starts, demand for building boards and papers has held up, largely because of the wave of home improvement projects sweeping the country.

The big question mark is this: How soon will the short-term problems crop up, and how severe will they be? If these problems result in widespread price-cutting, as in the past, there could be trouble for the producers who are having the most trouble with fast-rising costs.

• **Market Trend**—Some institutional investors say that they are checking very carefully into the expansion problems of the industry before making any new investment commitments. Lately, in fact, most paper stocks have sold off a little from their bull market highs, although they still have a long way to go before anyone would regard them as "cheap" investments. The hassle over expansion, coupled with generally high prices—and low yields—of paper shares, is scaring away some would-be buyers, say Wall Streeters.

Perhaps the real trouble is that people expect so much from paper stocks. "No one is crowing about the first six months sales and earnings figures—running about 12% and 20% respectively ahead of a record 1955—because they expected it all along," says a Street market analyst. This same experienced hand notes: "There is no reason to believe that the industry's growth potential won't materialize. But the paper shares are vulnerable to any disappointment, because the market already has taken their bright future for granted."

Many Streeters believe that at least as far as the market is concerned, the papers should slide over any foreseeable difficulties providing these are, as expected, of a short-term nature.

"Besides their fine fiscal position, with fairly large cash holdings and little debt, they have an attraction as inflation stocks," says a brokerage firm partner. "And not only do they have their basic resources in the ground, like the oils, but they replace those resources at least as fast as they use them up." END

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TOP 1956 EARNERS . . . TO DATE

	—FIRST-HALF NET PROFITS— (Millions) 1956	Rank	1955	Rank	—CHANGE— 1956 vs. 1955
General Motors Corp.	$503.5	1	$661.0	1	—23.8%
Standard Oil (N.J.)	392.0	2	344.0	2	14.0
The Bell System	#362.9	3	#316.8	3	14.6
United States Steel	208.6	4	177.9	6	17.3
E. I. du Pont de Nemours	187.8	5	186.4	5	0.8
Texas Co.	138.1	6	*116.6	7	18.4
Gulf Oil	138.1	7	91.9	11	50.3
Ford Motor	131.7	8	234.4	4	—43.8
Socony Mobil Oil	124.0	9	100.0	10	24.0
Standard Oil (Cal.)	122.1	10	109.3	8	11.7
General Electric	112.9	11	107.8	9	4.7
Bethlehem Steel	95.3	12	*75.7	12	25.9
Kennecott Copper	89.1	13	65.4	14	36.2
Standard Oil (Ind.)	75.9	14	65.0	15	16.8
Union Carbide & Carbon	70.1	15	63.6	16	10.2
Shell Oil	69.4	16	54.5	17	27.3
Phillips Petroleum	51.6	17	42.6	20	21.1
Republic Steel	51.5	18	41.1	21	25.3
Aluminum Co. of America	48.6	19	44.3	19	9.7
Sinclair Oil	45.1	20	37.8	23	19.3
Eastman Kodak	38.8	21	36.4	24	6.6
Union Pacific	33.5	22	35.6	25	— 5.9
Chesapeake & Ohio	32.1	23	27.2	—	18.0
Int'l Business Machines	31.9	24	23.9	—	33.5
Consolidated Edison (N.Y.)	31.3	25	31.3	28	—
Jones & Laughlin Steel	30.9	26	22.6	—	36.7
Atchison, Topeka & Santa Fe	30.3	27	33.2	26	— 8.7
Pittsburgh Plate Glass	30.3	28	32.6	21	— 7.1
National Lead	29.0	29	23.5	—	23.4
National Steel	29.0	30	23.0	—	26.1

6 months ending May 31, 1956 and 1955. *Excludes nonrecurring profits.
NB. This table has been compiled from published first-half earnings reports. Due to the current lack of such data some companies may have been excluded from the list that rightfully belong in it, including, for example, Anaconda Co., Armco Steel, International Paper, Pacific G. & E., Sears, Roebuck, etc.

©BUSINESS WEEK

GM Again—By a Fender

General Motors Corp. still retains its title as biggest profits earner among the nation's nonfinancial corporations, despite the 24% year-to-year drop in its first-half profits that resulted from the sharp decline in automobile production in recent months.

The auto recession did have some repercussions on GM's standing, though. While GM remained Mr. Big in the 1956 first half, as the above compilation discloses, it held its lead by a decidedly slimmer margin than in the same 1955 period.

In the January-June 1955 tally, GM's net earnings alone outran the combined net of Standard Oil Co. (New Jersey) and the Bell System, the traditional runners-up to GM in the national earnings sweepstakes. But this year the combined earnings of the two runners-up actually exceeded by some 50% the reduced profits that the auto titan was able to chalk up recently.

• **Tumbling**—Detroit's troubles showed up in even sharper outline further down on the membership list of the select society comprising the nation's 30 biggest nonfinancial corporate earners.

Ford Motor Co.'s first-half earnings, for example, tumbled 44% under their 1955 level. And Chrysler Corp.'s net took a 73% nosedive. The result: Ford, the fourth largest first-half winner last year, fell back to eighth place. Chrysler, twelfth in the list a year ago, dropped completely out of the roster of the elite.

• **Shifts**—Below the top three companies, the latest list of big winners probably shows more shifting about in rank than has been noticeable for some time past. That's due not only to the sharp drops revealed among the members of the auto trade, but also to the steep advances that turned up among the oil and steel companies.

The two corporations reporting the biggest gains dollarwise, for example, were oils: Standard of New Jersey, and Gulf Oil. Gulf likewise reported the biggest gain percentagewise. Second largest percentage gainer was a steel company—Jones & Laughlin Steel, a newcomer to the list.

No Dividends . . .

. . . and the big stockholders like it better that way in this St. Louis manufacturing company.

The latest wrinkle in corporate capitalizations is to split up common stock into two classes and to pay stock dividends on one class, cash dividends on the other. This step was taken recently by Citizens Utilities Co., holding company for a number of small utilities (BW—Jan.14'56,p107).

Now, along comes a small, diversified manufacturing company, Curtis Mfg. Co. of St. Louis, to go Citizens Utilities one better. Curtis stockholders will vote next week on a plan that would give the company two classes of stock, with cash dividends payable on Class A stock, but Class B stock getting cash dividends only under certain conditions, but probably not at all. The vote will undoubtedly be in favor of the plan, as Curtis Pres. Harold C. Schott holds 46% of outstanding common, and his family interests control another 20%.

• **Don't Want Income**—Actually, Schott's idea is to take no dividends at all on his stock, and it is probable that six other large stockholders would choose to hold Class B common and take no cash payments. They figure they are in such high tax brackets that they could keep only a small amount of any cash dividend payments, and they would rather see the money plowed back into the company.

The plan would work like this: Two classes of stock, A and B, would be established. Cash dividends can be paid on A stock without paying any on Class B. Stock dividends and stock splits have to be paid or effected in similar amounts for both classes of stock, and each class has one vote per share. The 1.5-million shares to be authorized would be split equally between the two classes.

Minority stockholders, owning collectively 16% of Curtis stock, are expected to take Class A common and continue to receive cash dividends. They will profit doubly from the recapitalization—they will get not only cash dividends but also the benefit of

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the funds that are plowed back into the company.

Schott, and attorney Wendell A. Falsgraf who devised the scheme, think that eventually the number of Class A holders will grow as interest spreads following the recapitalization. And B stockholders, who presumably will have hefty capital gains through the plowing back of cash, can sell some of their holdings to the public to take these gains. The B stock has full conversion rights, so that those holders can convert to Class A if they want to.

After B stock has been converted to Class A, an equal amount of new B stock can be offered. Thus, the company could use Class B stock to acquire other companies.

FINANCE BRIEFS

Spur for diversification: Second-quarter records for two companies heavily dependent on the auto industry for their bread and butter show one reason for today's diversification programs. The records: Superior Steel Corp.—sales down 29%, profits off 81%; Sheller Mfg. Corp.—sales down 34%; profits off 75%.

•

New corporate issues with offering dates already set include $617.9-million of bonds, $16.5-million of preferreds, says Investment Dealers' Digest. Contemplated offerings without set dates involve $664-million of bonds, $32.3-million of preferreds.

•

Pittsburgh & West Virginia Ry. has cut its quarterly common dividend from the 50¢ rate paid since 1951 to 40¢ a share. Its directors feel this "steel road" should be conservative about dividends (which took 70% of last year's earnings) because of revenue lost during the steel strike and uncertainties about future operating costs (BW—Aug.11'56,p52).

•

Rounding out: National Dairy Products Corp. is negotiating an exchange-of-stock acquisition of Metro Glass Co., Inc., glass container maker.

•

Borrowing costs of Marathon Corp.'s recently arranged $95-million financing deal: 4¼% on a $65-million insurance company loan due serially 1964-1980; 3⅞% to 4¼% on a $20-million bank loan due serially to 1963; 3⅛% on a revolving bank credit due 1960.

•

Likely link-up: Security First National Bank, Los Angeles ($2.2-billion in assets at midyear), may soon merge with Farmers & Merchants National Bank, Los Angeles ($336-million in resources). Security First National would be survivor in the deal.

"Stomach" Ulcer

According to recent conservative estimates, about half a million people in our country today have ulcers of the digestive system in an active form. This includes both ulcers of the *stomach* and ulcers of the *duodenum*—that part of the small intestine into which the stomach empties. There is evidence that this disease is increasing, especially among those from 30 to 50 years of age.

Medical science can now offer greater hope than ever before to those who have this condition. Many cases can be cured completely, and others can be controlled. This

has been made possible largely by increased knowledge of the nature of the disease—particularly of the part that the emotions play in causing ulcers. There has also been great improvement in methods of diagnosis and treatment.

An ulcer is essentially an irritated or inflamed area in the lining of the stomach or duodenum. Although the *exact* cause is unknown, there are several factors which may be responsible for its onset. *Constant* abuse of the stomach through eating hurried, irregular meals—or eating food that is too highly seasoned, or too hot or too cold—may lead to an ulcer. *Prolonged* emotional tension, accompanied by *excessive* secretion of the acid digestive juices formed by the stomach, is also believed to be an important factor in the development of this ailment. As the ulcer develops, pain, an unnatural feeling of hunger, so-called "heartburn" and "indigestion," or other digestive complaints usually occur.

Through improved X-ray techniques and other diagnostic aids, the doctor can almost always determine the size and location of an ulcer. If the condition is detected, he will recommend prompt treatment, as an ulcer may quickly undermine general health by interfering with the body's nutritive processes.

Fortunately, in many cases, ulcers can be treated successfully by appropriate dietary measures. The patient must also readjust his daily life so as to reduce mental and emotional strain. In addition, new drugs are proving helpful. Cases that do not respond to either drug or diet therapy are often benefited by surgery.

As a safeguard against ulcers and other digestive diseases, doctors urge immediate medical attention whenever persistent discomfort occurs in the region of the stomach. With prompt medical care, many persons with ulcers and other digestive disorders recover completely and lead normal, healthy lives.

* * * * *

Since emotional factors are often so important in stomach ulcers and other diseases, Metropolitan has published a new booklet called Emotions and Physical Health. *If you would like a free copy, just clip and mail the coupon below.*

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Jonathan Logan's Fast Moving David Schwartz Thinks He Has Proved . . .

Times Favor the Big Dress

In the subdued hurly-burly at the showrooms of Jonathan Logan, Inc. (pictures), on New York's self-jostling Broadway, a stranger to the garment industry will find much that he expected. As David Schwartz (cover), chairman of the board, zigs and zags tirelessly from his private office (above) to dress rack to buyer, the observer tells himself: This is the way it should be—all crazy. The atmosphere jangles with the tensions of one of the most nerve-racking businesses in the world: manufacturing dresses to please the taste and purse of Miss and Mrs. America.

Yet there's something else, too. Partly it's the plush carpet, the smooth lighting, the air conditioning, the smartly dressed sales personnel and their smartly dressed customers. Schwartz may look to be zigging and zagging, an associate says; actually, he's moving in a straight line—ahead.

However demented the operation may seem, there's a sense of direction, an aura of success. Jonathan Logan represents the garment business trend toward big-scale operations.

• **$36-Million Business**—In a trade where many a company counts itself happy to sell $1-million a year, Jonathan Logan claims to sell $36-million. It is not the biggest dressmaker of all, but in its field of popular-priced junior sizes, it believes it is tops.

Chances are that the familiar type of alert, aggressive small garment manufacturer will be on the job for a long time. Schwartz, who has come up the hard way, acknowledges this. Yet he is not alone in thinking that there are pressures in the economy that are pushing the fashion field toward bigness just as they are pushing the hardgoods manufacturer.

I. Thinking Big

The change is a slow one. But as the first generation of garment makers dies out, the sons are taking over. Often better educated than their fathers, they are at least thinking big, though the companies they run may be small. Thus, says Richard Englander, whose firm, Richard Englander, Inc., turns out children's hats, "At our plant we like to say we look like General Motors. We have modern production equipment, we do marketing research, we have an efficient distribution force, we even work at publicity, like GM."

Not all the experts agree. As Schwartz

A TYPICAL DAY for Schwartz (left) starts with a visit from salesman. From then on, the pace is hectic.

MODEL displays new dress as Schwartz makes his usual lightning-like decision.

Maker

BUYERS stop in to look at new lines. "Every time a buyer orders I find out what's selling," Schwartz says.

BACK TO HIS OFFICE to hire a new employee, Schwartz gets embroiled in a batch of new problems.

SOLICITOR for funds to support a medical college gets Schwartz' ear. "Sure, I like medicine. I like it very much."

Story starts on page 132

himself says, there's always room in the garment field for the little concern. A small company can sweep in fast on a sudden style change, turn around on a dime, capitalize on the inspiration of the moment. The bigger concern, whose plans are laid far in advance, may move more ponderously. Furthermore, it's an industry of endless "fusion and fission," says Victor Lebow, marketing consultant. Lots of firms die—but there are always new ones springing up in their place.

• **New Ratio**—What statistics there are indicate a remarkable stability in the ratio of big to little apparel manufacturers over the years. According to the Commerce Dept.'s Annual Survey of Manufacturers, the total number of apparel and related establishments rose slowly from about 26,000 in 1950 to 31,000 in 1953. And the great bulk of them—about 90%—lies in the smallest classification: Nearly 30,000 employ fewer than 100. Those that employ between 1,000 and 2,499 have stuck consistently at 0.1% of the total, clear back to 1939. And in general the ratios have stayed just about the same for each employment group.

What factors, then, favor the larger concern?

• **One Answer**—To Schwartz, one answer lies in the shrinking profit margin of the retailer. When profits were larger, stores could buy their fashion goods on consignment, send them back if they didn't come up to specifications. Today, Schwartz maintains, every needless or extra operation hurts—such as returning dresses that arrived the wrong color, or skirts that were cut skimpily. At one point, Schwartz says, he wanted to ship his dresses on hangers. But since the hangers represented a sizable investment, he wanted the stores to return them. The retailers said no, thank you; the labor of removing the hangers and returning them was too much.

The small manufacturer can be as

CHIEF DESIGNER Jeanne Carr consults with Schwartz about details of her upcoming trip to Paris.

STILL FRESH at closing time, Schwartz says, "I haven't time to waste socializing with the hucksters."

Based on a case history in Crane's files

"It was like plugging a leak with chewing gum!"

"That's how we felt about a flow control problem three years ago.

"In our large butadiene plant in the Southwest, valve leakage was upsetting our process control. The valves—a lubricated plug type—were on suction lines from extractive distillation towers to pumps. Working pressure here is 90 psi. at 250° to 300° F.

"We simply couldn't make the lubricated plug valves seat tightly on the light hydrocarbons and furfural mixture. Our maintenance costs were climbing sky-high.

"How did we stop the trouble? By switching to Crane 33X steel wedge gate valves. They eliminated the leakage completely. Process control was steadied. And we haven't had a penny of maintenance cost on these Crane valves—they keep working perfectly with only routine care."

* * *

The big, complete Crane line gives you the best choice of valves and fittings for all flow control needs. Strictly quality-made for more than a century, Crane equipment is available locally everywhere to help you hold down piping costs.

CRANE VALVES & FITTINGS

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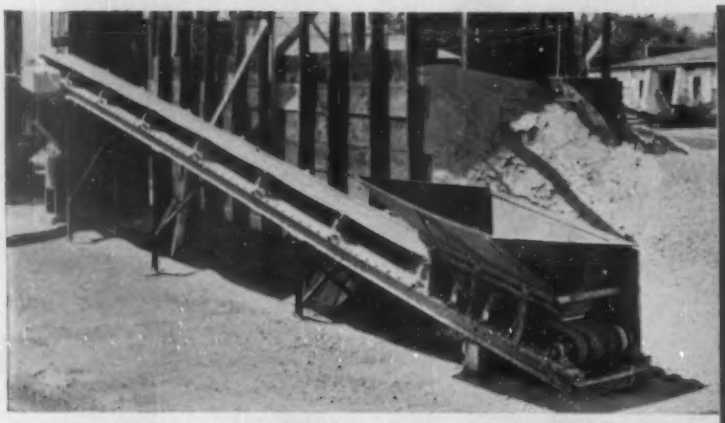

Cutting costs in saw mills, in foundries, in metal mines, in chemical plants—these are just a few of the places that the Barber-Greene 375 Transfer Conveyor has increased operating efficiency.

Whether you move materials from car to truck, from mine to tipple, or from point A to point B—a Barber-Greene conveyor can do it faster and cheaper.

If you think Barber-Greene builds only big conveyors...

. . . then you haven't seen Barber-Greene's Transfer Conveyor. Built in one-foot increments from eight feet up, this rugged, high capacity unit handles a wide variety of products and materials . . . cuts costs on the short haul.

Like All Barber-Greene belt conveyors, the Transfer Conveyor provides an unequaled way to move bulk materials at high hourly capacities with minimum power and maintenance. And like all Barber-Greene belt conveyors, the Transfer Conveyor is built with standardized components to provide faster delivery in the desired width and length.

Barber-Greene standardized conveyors are erected faster at lower cost and are more easily altered to meet changing conditions. Thousands of installations have proved them to be the most efficient and economical way to move materials from a few feet to thousands of feet. For information without obligation, write . . .

Barber-Greene BG

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CONVEYORS...LOADERS...DITCHERS...ASPHALT PAVING EQUIPMENT

exact in meeting specifications as the big one—but the company that has the equipment to standardize production and the distribution setup to keep deliveries prompt stands a good chance of getting the all-important reorders.

• **Style Factor**—Styling trends, too, sometimes play into the bigger producer's hands. Women the country over have a better educated taste in dresses, observes Perry Meyers, marketing consultant. This means, as many retailers have noted, that what goes well in one area sells in another. For the mass producer of styled clothing, this is a happy trend.

Not only is fashion fashionable the nation over, but the violent short-term changes in fashion come less frequently nowadays, due partly to the more relaxed formulas of suburban living. This, too, can give the big manufacturer an advantage. David Dawn, president of Jonathan Logan, explains it this way: When dresses suddenly plunge to the floor overnight, the small manufacturer has no trouble in knowing what to do; his dresses plunge with the rest. But if the style changes are subtler, as they tend to be today, his course is less certain. He may miss on the one slight change that is going to sell that season —and lose his shirt.

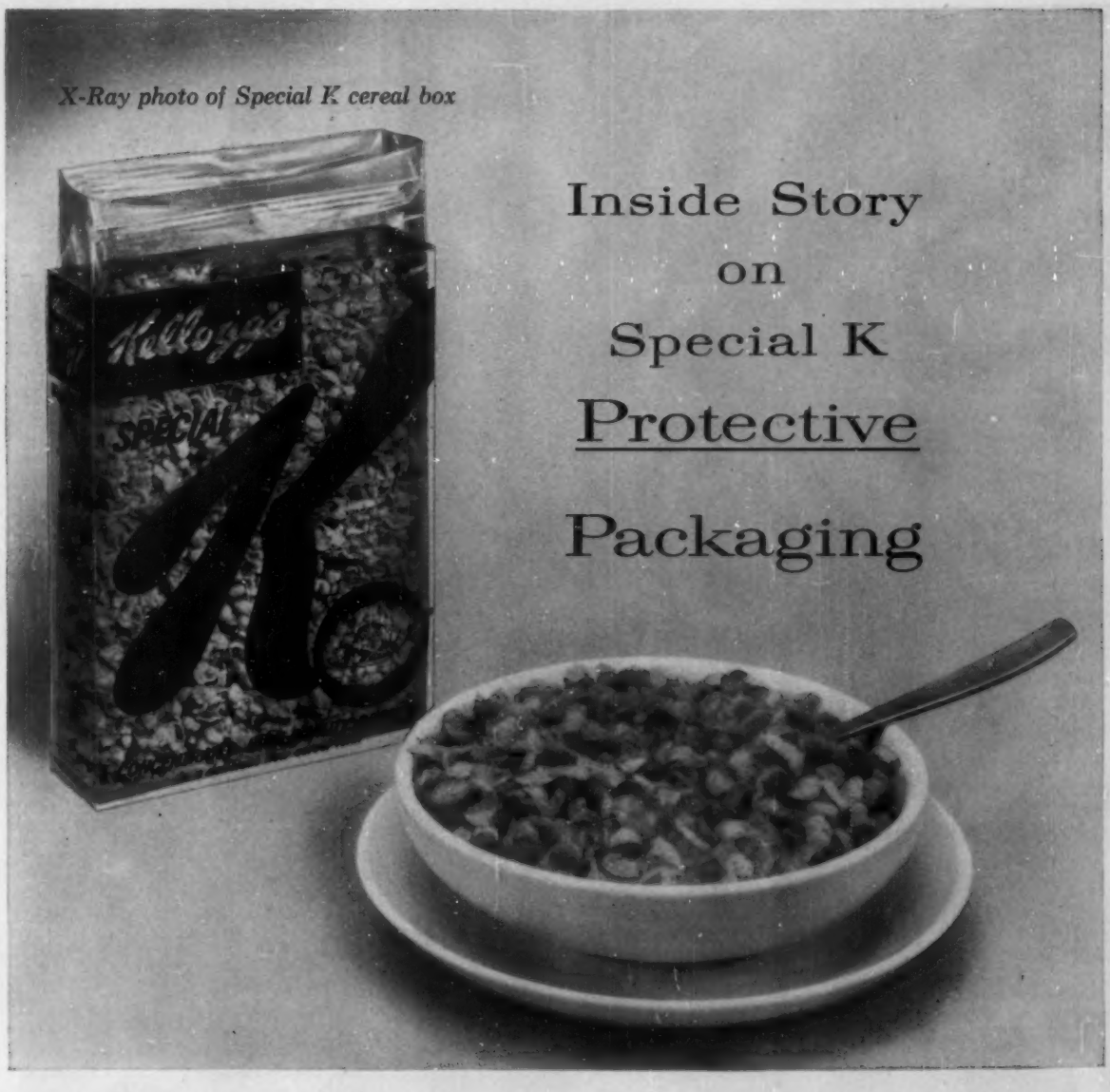
Against this hazard, a Jonathan Logan, with about 200 models in its line, has this protection: Some of those 200 will surely be right. Since it has the money to employ designers, chances are most of them will be right. And if a Jonathan Logan makes a bad guess, it can perhaps put even its mistakes over by sufficient advertising.

• **Calling the Play**—Schwartz holds that today fabric is a prime style factor. "This is the day of atomic energy and of the miracle fibers," an associate says. But as many a manufacturer knows to his sorrow, the miracles don't always burst on the scene in a state of perfection. Bugs develop that take time and money to iron out. Here again it's often the well-heeled concern that can call the plays. It can afford to take risks on a new fabric, work with it, smooth out the bugs, and captivate the market with it. As Schwartz likes to say, "We can afford to make mistakes."

The ability to survive mistakes is perhaps more important in the fashion field than in any other. Fashion is vulnerable to two factors that it can't control: the vagaries of weather, and, more important, the whims of its women customers. Time and again, success or failure depends on skill in overcoming, or minimizing, these risks.

II. Up From Scratch

It was some 40 years ago, when David Schwartz was 13, that he got his first look at what was to be his life's busi-



Kellogg's new protein potent Special K cereal has a "waxtite" inner bag that guards its oven-fresh flavor. This bag is fabricated from Rhinelander glassine waxed by the Kellogg Company. It insures the just-right crispness that must be nicely balanced to prevent rancidity development and moisture-vapor transmission.

Waxed glassine performs this job successfully and inexpensively. Moreover, it has excellent folding qualities which enable the package to be reclosed after part of the contents has been removed.

These and other properties, such as resistance to grease, shortening and oils, make Rhinelander glassine paper an ideal protective medium in packaging many perishable food products.

Write for full information and samples—stating your packaging application.

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ness. Back during the 20th Century's teens, Schwartz recalls, the garment trade was a hole-in-the-wall, dog-eat-dog business. It took a couple of men and a couple of sewing machines, and that was about all. Labor was cheap, and the boss' one thought was to work his help as long hours as he could to get the maximum output.

During the 1920s this changed. Ready-to-wear came into its own, and aggressive manufacturers discovered they could broaden their output by contracting with other manufacturers. But there still was no great investment of capital required, and production still meant producing as much as one could as cheaply as one could.

• **Came the Revolution**—The great revolution, Schwartz believes, took place during the 30s. The advent of the New Deal changed the wage picture, when the International Ladies Garment Workers Union became a stabilizing factor in the industry. You could no longer pay off a worker with a few dollars a week plus a sandwich for overtime. Retailers, too, had to up their wage scale. That was when manufacturers and merchants in the middle-price ranges began to take a serious look at the product.

All these years Schwartz had been on the job—a shipping clerk for one company, delivery boy for another. Gradually he learned the business; he got into the selling end, haunted the factories. He had worked hard, had saved some money. By 1938, he was ready to plunge into the "rag" business. He bought Jonathan Logan, a firm that specialized in smart styling at middle prices.

III. How It Grew

Close-mouthed about his operation, Schwartz will say only that today Jonathan Logan owns or leases 25 manufacturing plants. The rest of his output comes from plants with whom it has contracts. Besides its New York showroom, it has showrooms in Chicago, on the West Coast, and in Texas. It has a highly mechanized distribution center at Bergen, N. J., which receives the fabrics from the mills, amasses all the dresses from the various factories, ships them out to customers. There's a Jonathan Logan, Ltd., of Canada in Montreal, and it owns a Canadian manufacturer of children's and teen-age dresses and sportswear. It has licensees in South Africa, Australia, Venezuela, and Mexico City. It sells through over 5,000 retailers—from Lord & Taylor, Marshall Field, J. L. Hudson, Neiman-Marcus down to small suburban stores.

During 1955, the company merged Alice Stuart, Inc., blouse manufacturer, and Little Alice, which makes children's wear, into the corporation. About a

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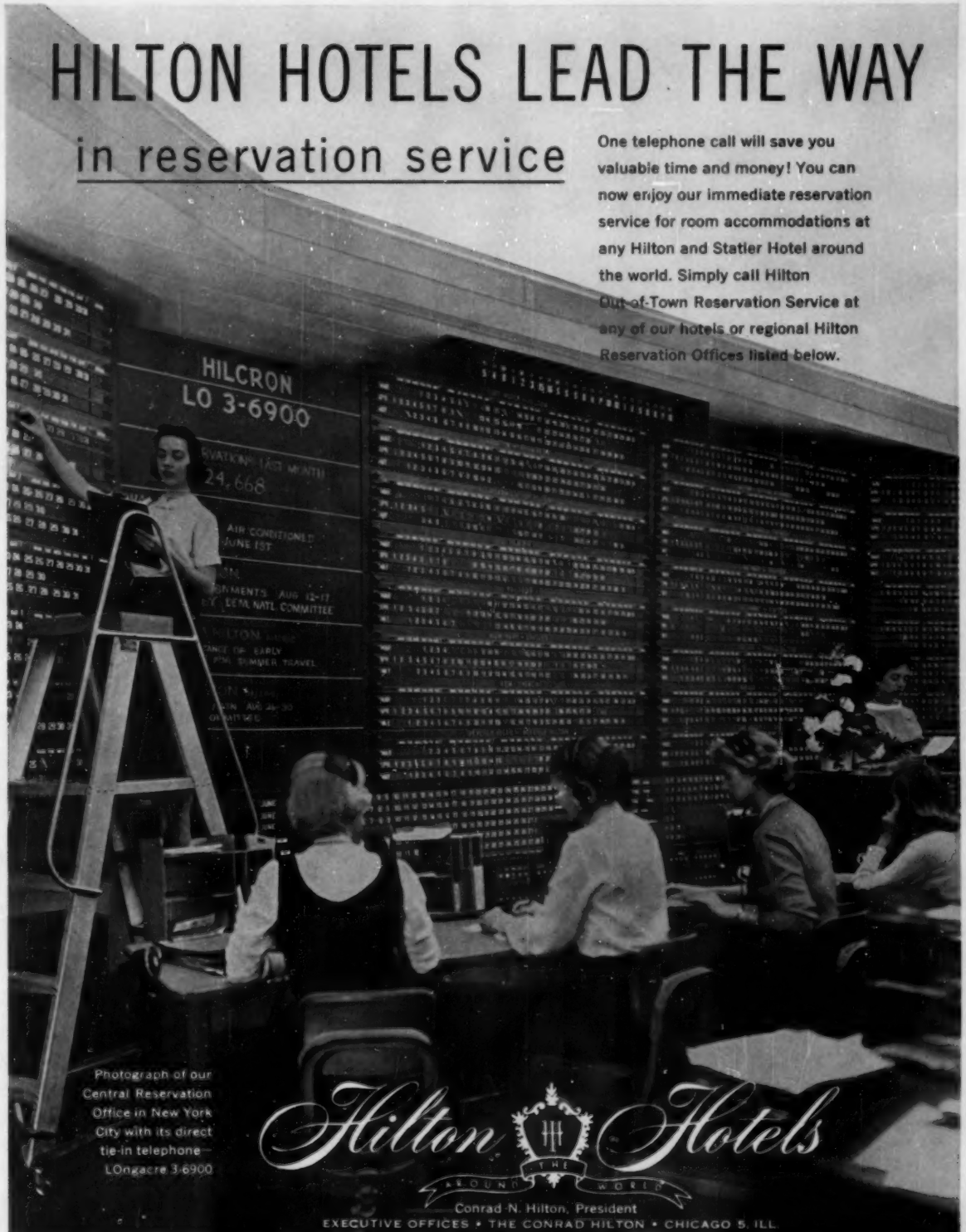

Photograph of our Central Reservation Office in New York City with its direct tie-in telephone—LOngacre 3-6900

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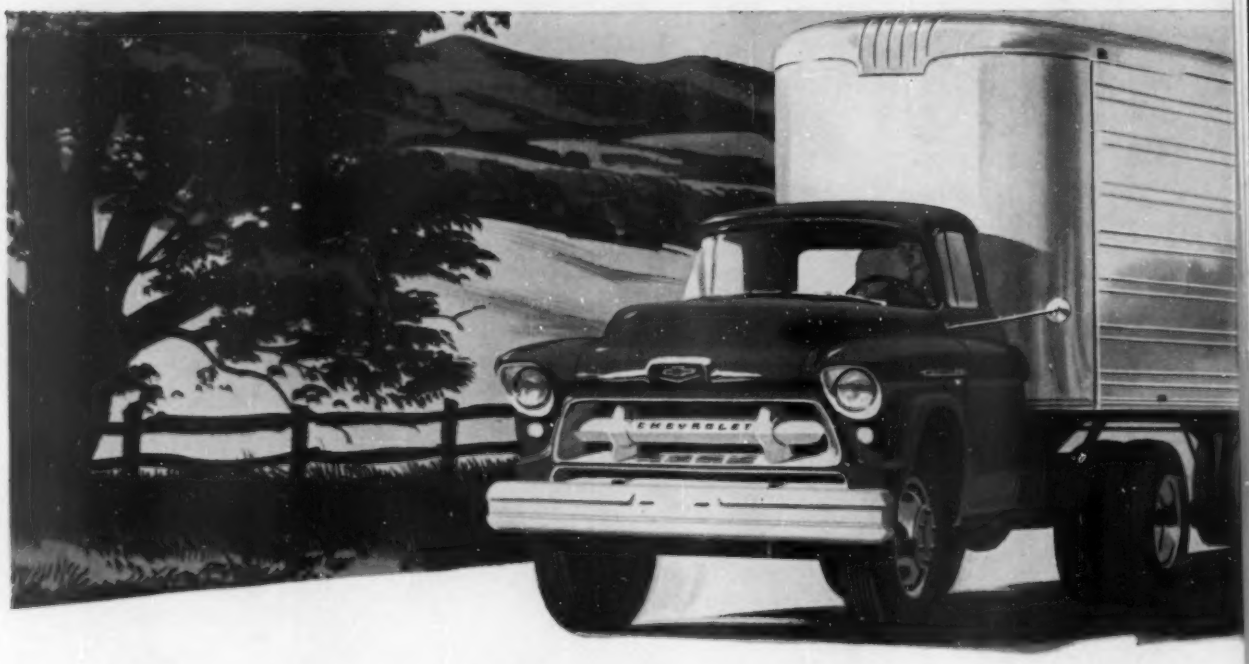

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It's Chevrolet's exclusive POWERMATIC — the first automatic transmission specifically designed for medium- and heavy-duty trucks. Built by Allison, POWERMATIC includes the unique hydraulic RETARDER for safe downhill speed control by moneysaving, brake-saving fluid friction.

POWERMATIC provides six fully automatic forward speeds and multiplication of engine torque up to 14.8 times. It does away with the tiresome work of continuous gearshifting on hills or in traffic. And, along with the faster downhill travel made possible by the hydraulic RETARDER, permits faster, safer round trips.

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mechanical drive for top fuel economy by locking up the torque converter.

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GM TORQMATIC

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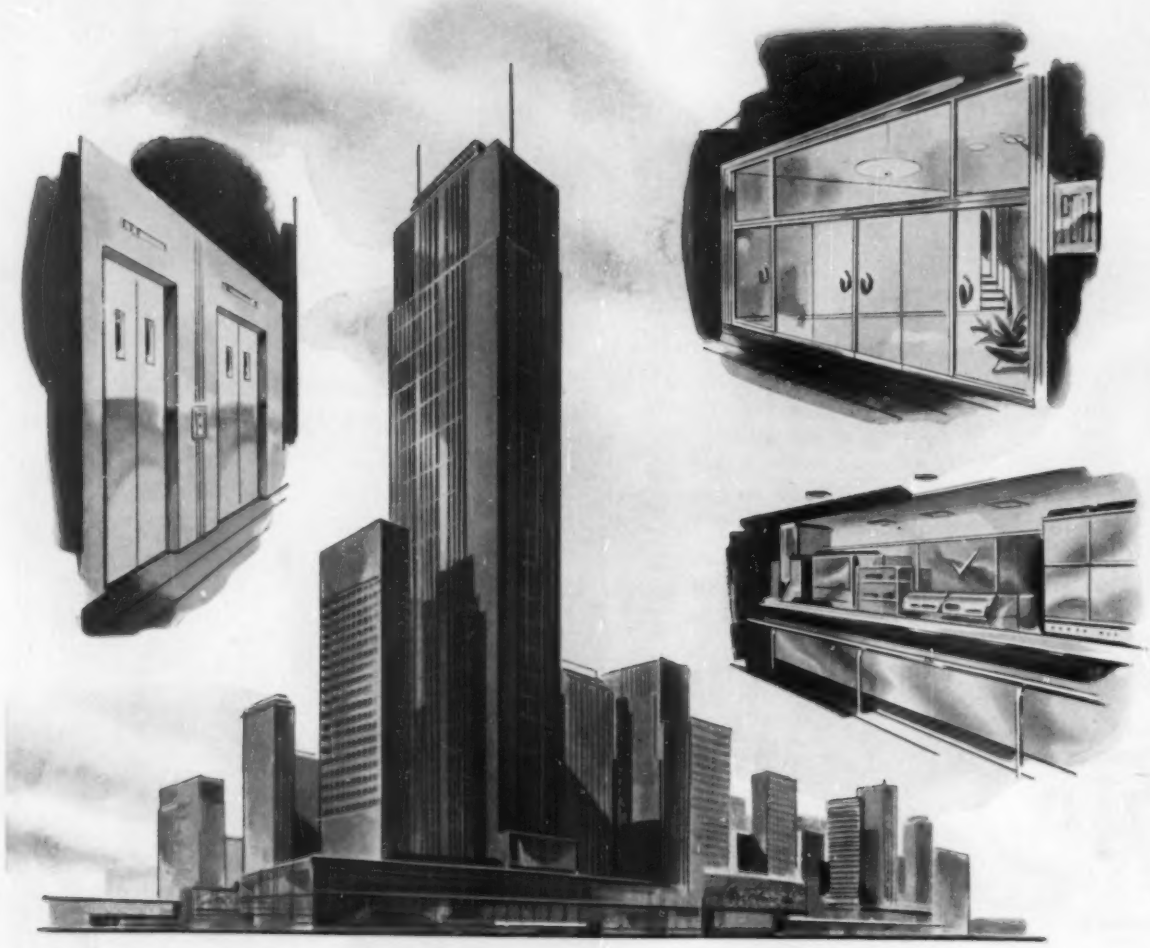

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the architect specifies long-lasting Stainless Steel for its strength, its beauty and its economy of maintenance. In heavy use areas and for weather-exposed panels and trim, nothing stands up or keeps its smooth finish like Stainless Steel.

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year ago it bought Junior Accent, a manufacturer of higher priced junior apparel, retailing at roughly $30 to $75. (Jonathan Logan dresses retail from around $15 to $25.)

• **Flexibility**—The main factors in all this appear to be a merchandising system that gives the company some of the flexibility of a smaller concern and a production system that is built on modern equipment, modern methods.

"In the rag business," says Schwartz, "you have to be able to turn on a dime."

Here's how he turns. Take the case of D'Orlanna, a new fabric by Princeton Knitting Mills. Schwartz saw it, liked it, bought the complete output. When they had worked out the colors, his stylers made up two or three dozen dresses in the fabric. Then he invited the "hep" buyers from among his key customers to come take a look. The buyers weeded down the styles to 18. These were the ones that went into the line offered to market last May.

• **Minimum Risk**—Then comes the second phase—after the dresses get to the store. Schwartz figures he must spot his good sellers, be prepared to recut, pull out the styles that aren't moving. As a result, the company never cuts more than about 20% of the goods its customers order.

As soon as the new line hits the stores, a New York salesman starts checking the key retailers. Which are selling? Which aren't? "We watch reorders like a hawk," says Schwartz. The minute he gets enough in reorders to tell the story, he starts shifting his output. Jonathan Logan salesmen in other parts of the country get the word, pass it on to their retailers.

Weekly, sometimes daily, this kind of checking goes on. "We see our mistakes before our customers do," says one associate.

This kind of weeding out before the line is made up and the constant check on reorders helps to minimize the risk against which the garment field always works. At the production end, the same kind of effort is made to keep risk down.

• **Safety Factor**—The fact that the company farms out a good chunk of its output is one safety factor—one that is commonly used in the trade. "Owning your own plants 100% is a good way to lose your shirt," says Schwartz. Comes a slow season, its easier to cut back on outside contracts than to close down your own plants. And owning some plants assures a continuity of production and a quality standard.

Schwartz takes great pride in the caliber of his equipment. At the Bergen center, specially devised Remington Rand machines coordinate information on receipt of piece goods, orders, and shipping data. At market time, to speed

UNBIASED ADVICE ON PLANT LOCATIONS IN THE NATION'S FASTEST EXPANDING REGION

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Sunshine Biscuits, Inc.
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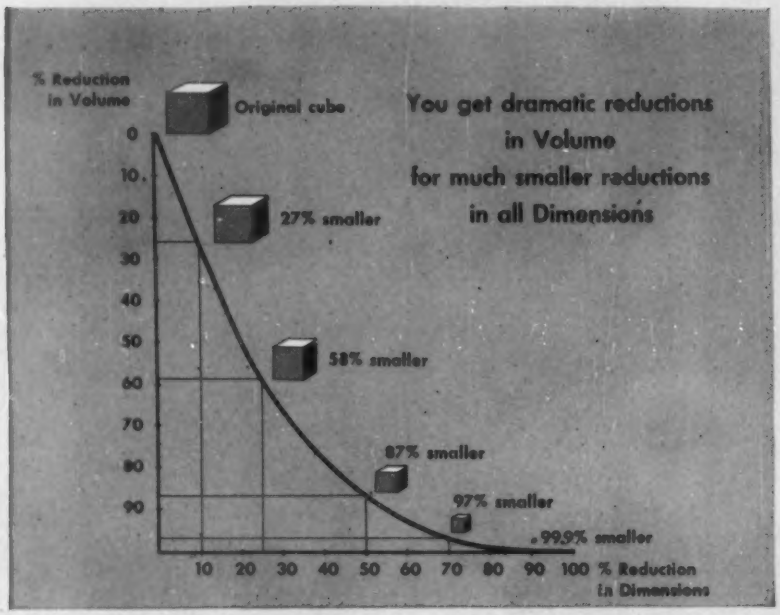
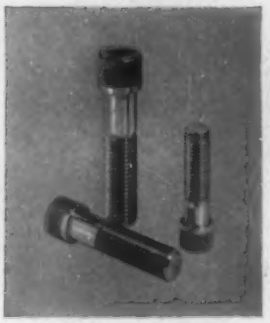


Classic example of miniaturization in its simplest form. The volume of a cube equals an edge multiplied to the third power. Decrease in volume is not proportional to decrease in edge. Reduce an edge 10% and you reduce volume 27% (weight, too, if you have a solid cube). Reduce edge 50% and you reduce volume 87%.

How UNBRAKO cap screws aid miniaturization



"Miniaturization," in the most common sense of the word, means making things smaller—smaller hearing aids, less bulky electronic computers, lighter aircraft components. Reductions in size and weight, however, are advances only to the extent that they provide more function, more service, more convenience to the user.

At SPS we equate miniaturization with "getting more from less." This concept is a workable one which broadens the definition and hence the field for miniaturization. It is the basic principle which has led, for instance, to the development of the automobile engine of today—an engine which delivers four times the horsepower of an engine of 50 years ago, but which occupies only about one-third the space.

SPS products are designed for miniaturization. Take an UNBRAKO socket head cap screw. It is much stronger than a similar screw five years ago. With more holding power and higher fatigue values packed into fasteners of smaller size, the critical joints—and hence entire components—in products they hold together can be made smaller. Results: stronger, lighter, more compact products, or products that deliver more function without an increase in size.

The UNBRAKO socket screw of today is only one of many contributions by SPS to miniaturization of the products of American industry. Send for the brochure titled "Miniaturization—more and more from less and less." It suggests how miniaturization can be put to work for you. STANDARD PRESSED STEEL CO., Jenkintown 57, Pa.

UNBRAKO SOCKET SCREW DIVISION

STANDARD PRESSED STEEL CO.
SPS
JENKINTOWN PENNSYLVANIA

up operations the company brought a Remington Rand machine to the showroom to expedite buyers' orders—and to give the company an up-to-the-minute guide to what models in the new line were taking.

IV. Success on Success

To some extent, luck has been on Schwartz's side. He got into his own business just before World War II, when demand for clothing soared with the shortages. And to a considerable extent he has built success on success.

Thus, by now he can go to a bank for financing—as few smaller manufacturers can, and has the buying power that makes it possible to get piece goods at a favorable price, and often get an exclusive on the first run of a fabric.

• **Pioneer**—Since the early days of Jonathan Logan, the firm has believed in advertising. It was the first company in its field, Schwartz says, to advertise not only the brand name but the designer name—back in the early '40s. Last year he spent $500,000 on consumer advertising. In this, of course, he is not unique; manufacturers such as Jerry Gilden and Henry Rosenfeld also have done a promotion job.

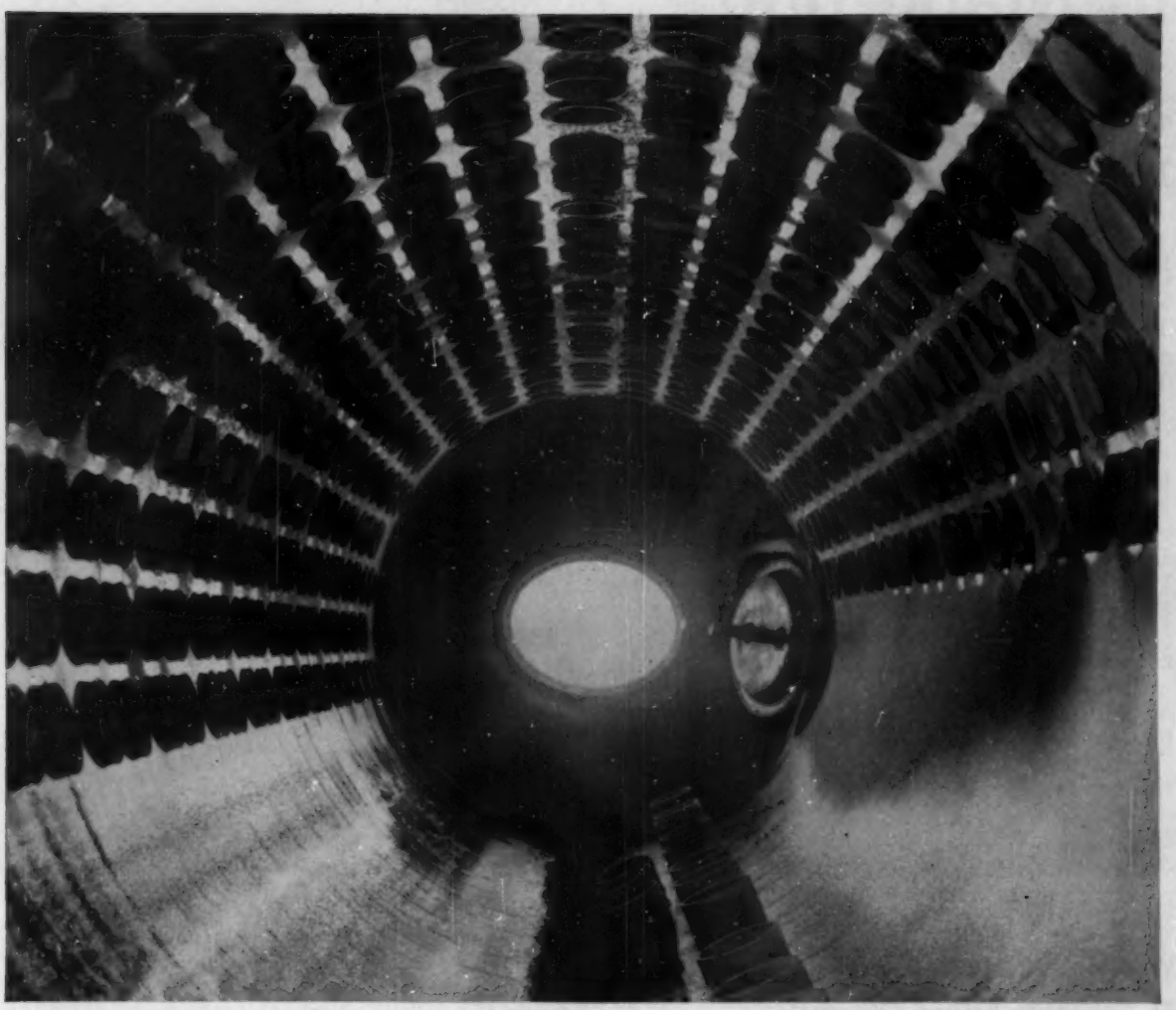
Like other aggressive concerns, Jonathan Logan offers promotion allowances to its customers, so zealously, in fact, that along with others in the business it tangled with Federal Trade Commission last year—over the sticky problem of offering "proportionately equal" allowances to all customers.

Probably in electing to stick with the junior field, Logan also minimizes the risk inherent in the trade. Schwartz long ago made up his mind that there would always be teen-agers who wanted pretty clothes. "And," he says with a grin, "it's a market where you get 3-million new customers every year." You keep them, too, he feels, because strictly speaking, junior indicates a size, not an age.

• **"It's a Religion"**—Undoubtedly, it's Schwartz's own fanatic devotion to his business that has pushed it along. "It's a religion to him," says one associate. "He has a hand in everything—designing, buying, selling, producing, promoting. We couldn't keep him out of anything if we wanted to."

"This is a different business from the old days," he insists. "Why shouldn't we grow? We got fine plants, we got nice people—CPAs, college graduates—they got good working conditions and good pay."

Others may shake their heads, say that a big company can miss as well as a small one. But Schwartz has unbounded faith. "I won't live to see it," he says, "but there'll be companies in this business doing $100-million in another 20 years." END



Mud drum interior of Boiler No. 9, American Motors Co., Kenosha, Wis.

NO TROUBLE HERE...

When the mud drum of Boiler No. 9 was drained and opened for inspection recently, the interior looked exactly the way everyone expected it would—clean as a whistle. After nine months of service there was no sludge or scale to impair steam production efficiency.

This kind of trouble-free performance and the continuous production of high-purity steam are direct results of Dearborn Water Conditioning—a properly balanced program that combines quality products with the right methods, controls, and technical supervision.

Power Engineers in leading industrial plants throughout the country place their confidence in Dearborn methods and products. A Dearborn Water Conditioning program in your power plant is your assurance of maximum operating efficiency—and your insurance against unnecessary maintenance expense and costly shutdowns caused by sludge, scale or corrosion.

Let a Dearborn Water Treatment Engineer survey your system and recommend control methods best suited to your needs. We'll gladly make the call at your convenience.

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In Marketing

• • •

Technicolor Buys Out Pavelle

To Strengthen Film Processing

Important competition has entered the color film processing field (BW—May12'56,p61). The Technicolor Corp., long associated with the movie industry, has just announced the purchase of Pavelle Color, Inc., New York, a leading processor of amateur color film. This acquisition gives Technicolor processing facilities in New York, plus national distribution channels.

Nobody would disclose the financial terms of the transaction, except to say payment was largely in cash.

Competition in color film processing was born when Eastman Kodak Co., acting under the terms of a consent decree in 1954, made technical information and equipment for processing its leading color films available to all comers. A number of companies, such as Technicolor, Pavelle, and Pathecolor, Inc., began planning to enter the field nationally.

Technicolor is already processing 35mm. Kodachrome film in the West. The acquisition of Pavelle will enable it to offer similar service in the East and Midwest. The company plans to build a new processing plant in Hollywood.

For Technicolor, the purchase is part of a diversification program announced last year. The company has already entered the color graphic arts field (BW—Feb.11 '56,p91). A spokesman for the company says it aims at "a complete line of color processing services."

• • •

West Coast Hotel Is Designed

To Appeal to Retired Oldsters

The nation's senior citizens—the over-65 age group—have been getting increased attention from many quarters (BW—Feb.4'56,p86). The latest answer to housing needs of the oldsters is offered by the Del Mar Estate for the Retired, near San Diego, which recently opened its doors. The Del Mar's answer, admittedly only for the well-to-do, is a country-club atmosphere tailored to older people's special requirements.

The hotel maintains an infirmary with resident doctor and nurse, and all rooms are equipped with speakers connected directly to the infirmary. Each floor has a lounge, where guests may have light snacks. And safety devices such as grab-rails in all bathrooms, have been installed.

But the Del Mar wants to avoid an old-folks' home atmosphere. It has a heated swimming pool, a "Happy Hours" room for cocktails, TV and game rooms, shuffleboard courts, horseshoe rings. And a race track and a golf course are nearby.

Guests may choose the color scheme for their rooms and may also bring along their own furniture when they move in.

The Del Mar operates on a life expectancy plan, using figures issued by the California State Dept. of Social Welfare. Residents pay a lump sum equal to $300 per month multiplied by their life expectancy. In return, they get bedroom and bath, all meals, maid service, medical care and hospitalization. The guest who outlives his statistical expectancy stays on at the Del Mar "on the house."

At present, the Del Mar has five residents. But Mrs. Olive Armstrong Fox, president of Armstrong Manors, Inc., which owns the hotel, says she expects to have 60 guests within a month or so. The Del Mar accommodates 120

• • •

Two Ways to Persuade Dealers

To Favor Your Appliance Line

An appliance manufacturer is taking steps to strengthen its dealer setup. Avco Mfg. Co. has launched a plan to eliminate credit risks for its Crosley and Bendix dealers, thus encouraging them to push those lines in preference to competing ones.

For dealers who do 40% of their volume in a Crosley or Bendix product, or in both product lines, Avco distributors agree to repurchase repossessed appliances at the price the dealer has to pay the bank.

Ordinarily, if a purchaser of, say, a refrigerator stopped paying on it, the bank would repossess it and require the dealer to take it back for the unpaid balance. The dealer would then be stuck with the appliance. Under the new scheme, the dealer can get his distributor to buy it back at the same price he paid the bank.

While Avco is wooing dealers, Westinghouse Electric Corp. is thinking about cutting its 13,000-dealer setup.

Richard J. Sargent, general manager of marketing and distribution for consumer products, says 2,000 Westinghouse dealers account for 66% of the company's appliance business. Sargent declares the trend in the appliance industry is for dealers to reduce the number of lines they handle. In Denver, for example, out of 18 Westinghouse dealers, 11 handle Westinghouse products exclusively.

Sargent insists Westinghouse isn't taking any active steps to eliminate dealers and is merely spelling out its thinking to distributors. The trend is toward "fewer, stronger dealers," he says.

• • •

Marketing Briefs

Edison Bros. Stores, Inc., shoe store chain, will open 30 new shops this fall for the largest expansion move in its history. This will bring the total to around 300 stores. Edison made its mark in the shoe business with a line of high-fashion, lower-priced shoes (BW—Mar.26'55,p50).

The Jet Age has come to Bon Ami, well-known household cleanser. Next month it will be sold as an aerosol spray. United Dye & Chemical Corp., which acquired Bon Ami last May, will launch the new product, Jet Bon Ami, with a $1-million advertising campaign.

Installations of hot water and steam heating systems should reach a value of $353-million this year. John E. Reed, president of the Better Heating-Cooling Council, says 1961 volume is expected to exceed $500-million.

Talk about microfilming until you're blue in the face...but I just can't afford it!

Obviously you haven't heard!
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Here—combined and *complete* in a single unit—is the microfilming equipment you *can* afford. For the unique Micro-Twin that converts from recording to reading and back again—at the mere flick of a knob—actually costs substantially *less* than any other *up-to-date* microfilming system.

It records as fast as it can be fed—by hand or automatically. You can photograph documents front and back simultaneously or one side only, as you prefer. You can even make full-size facsimile prints of any document image right from the Reader—and actually develop them in just a few minutes without a darkroom.

Another important point! You also get these modern microfilming advantages in the new Model 205 Microfilm Recorder and the Model 206 Reader. These, too, are precision-built by Bell & Howell.

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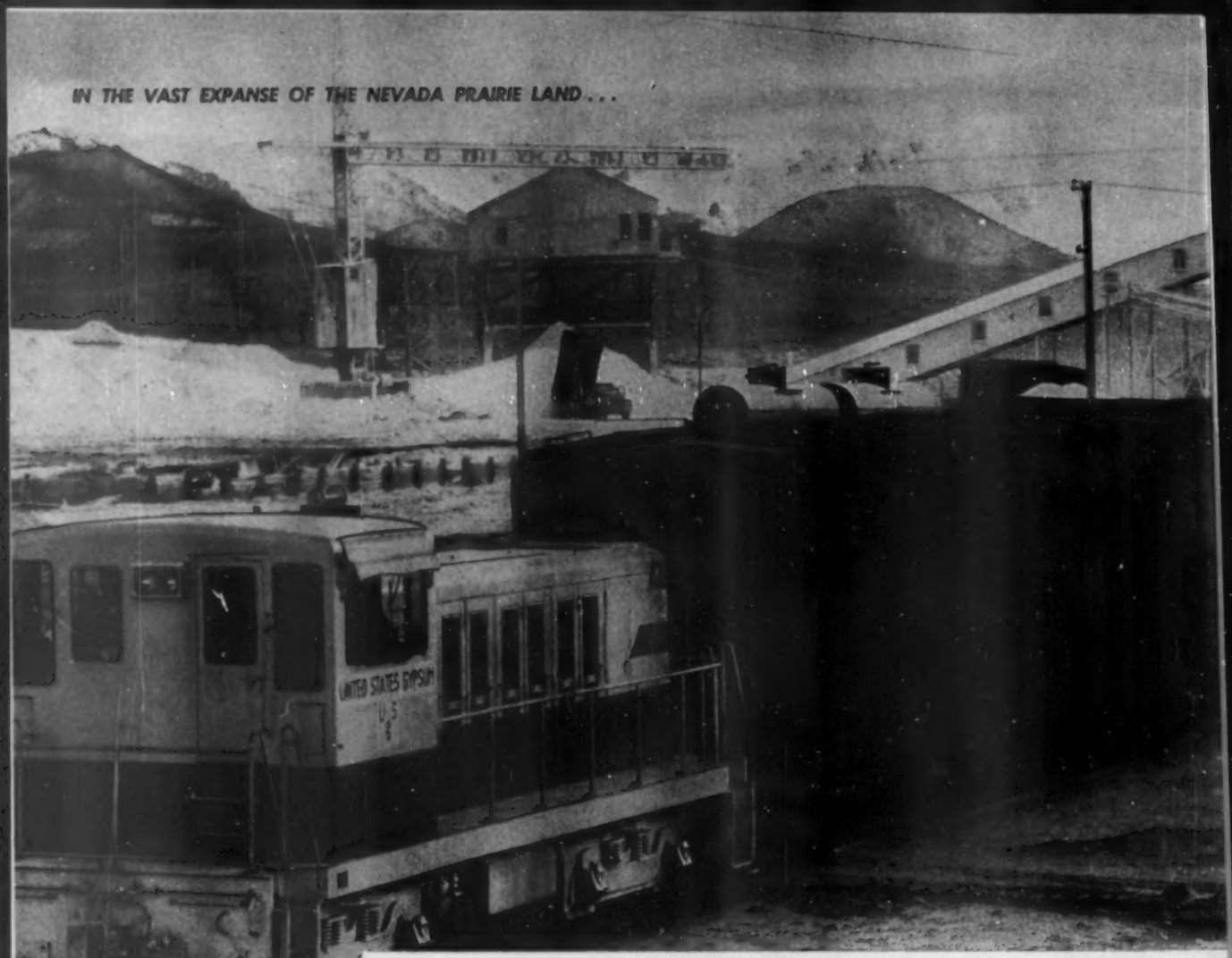

General Electric Locomotive Saves $25,000 a Year For United States Gypsum

The United States Gypsum Company at Empire, Nev., mines and processes many tons of gypsum rock daily. Building materials produced here are used for modern construction throughout the far West.

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Since there are only minimum storage facilities, any locomotive failure would cripple the entire operation. G. I. Walden, Eng. Supt., says that U.S.G. has operated its G-E locomotive "better than 6000 hours without down time!"

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MILITARY UNIT	MANPOWER	EQUIPMENT COST	ANNUAL MAINTENANCE PER SOLDIER	FIREPOWER (In comparison with World War II)
World War II Division	20,000 (avg.)	$19.5-million	$3,500	100%
Modern Division	15,000-17,000	$69.5-million	$6,000	180%
Future Combat Team (with atomic armament)	1,000-7,000	Will cost more than today's division		Thousands of times greater

U. S. Strategy Takes a New Turn

Ever since Korea, the role of ground troops and conventional arms has been on the decline, as U.S. military strength became concentrated on strategic bombers, missiles, nuclear explosives, and other new weapons producing more bang with less men.

The shift has been gradual, moving into a mid-range between old-fashioned and new-fangled arms. And even this slow-paced transition has been held back by delays in getting the fantastic new arms out of the laboratory.

Now the trend toward more push-button weapons and less manpower is quickening. The new weapons—far more costly than the old—are moving on the gallop from development to heavy production, pushing defense costs up and manpower needs down. The figures in the table above tell one part of this story.

The Eisenhower Administration has decided that it can put a rein on costs by cutting back conventional forces even more, that military striking power can be maintained and maybe increased with fewer men in uniform. The budget makers in the Pentagon this week are well along in translating this policy into dollars.

At a quick glance, here's how the defense program is being reshuffled:

• Starting in fiscal 1958—next July 1—the size of the 2,850,000 armed force will be reduced. The exact figure will not be set for at least another month. But a slash of about 25% by 1960—mainly in the Army—is being considered.

• Military spending will inch up—from $35.6-billion last year to at least $36.5-billion in the current fiscal 1957. The climb will continue next year, as more procurement gets tied to advanced missiles and electronic gear. But the manpower cuts will act as a lid to hold the increases to probably not more than $1-billion annually.

• Long-range mobilization plans will be trimmed some more. The theory is that adequate military forces and industrial capacity are now in being to handle a "brush fire" or limited war, and that in a general nuclear war there would be no time for a prolonged buildup.

• Military organization and tactics will be revamped to exploit the new weapons more economically. Many of the Army's 19 divisions and the Air Force's 50 tactical air wings, which provide ground support, are likely to be scrapped. Most of the remaining 17,000-man divisions will ultimately be regrouped into streamlined combat teams of 1,000 to 7,000 men.

• **New Phase**—Actually, the Army manpower cuts and other program changes now shaping up are a further step forward in the new defense strategy worked out in the past four years.

They come on the heels of:

(1) The 1953 "new look," which put greater stress on the air-atomic deterrent, and led to a $5-billion reduction in spending and a cut in conventional forces from 3,400,000 men to the present level.

(2) Last year's Joint Mid-Range Strategic Plan, which was formal recognition that the Russians, too, had mastered air-atomic power. While the plan did not dismiss the possibility of limited war, it pointed up the prospect that the major impact of a future general war would come right at the start (BW—Dec.3'55,p30).

• **Coming to a Head**—Preliminary Pentagon work on the fiscal 1958 budget is bringing the issue of further manpower cuts to a head, and has set off the recent headline-making inter-

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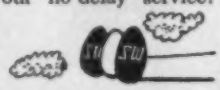

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service squabbles over roles and missions.

One Administration official sees next year as "crucial." Most of the superduper weapons in development so far will become available in heavy volume for the first time. He says the country can't afford "the luxury of 120% insurance"—that is, keeping both large forces of ground troops and the newest pushbutton weaponry standing side by side.

The Administration insists that defense must be financed pay-as-you-go, that a much more costly program would cramp the civilian economy. Besides, says the official, "once you have enough military strength, is it worth much to have more than enough?"

The individual services apparently think it is. They have come up with roughly $48.5-billion in new money requests for next year—about $13-billion more than the sum just appropriated for fiscal 1957. Last week, Defense Secy. Charles E. Wilson indicated he will O.K. very little of the increase.

Meantime, the drive for more defense funds was reinforced by Air Force Chief of Staff Nathan F. Twining and his top aides, reporting to the Senate's airpower investigating subcommittee on their recent visit to Russia. In secret testimony released last week, the General said once more that Russia is "closing the gap" on U.S. airpower, and hinted that the Russians are ahead in developing a supersonic long-range bomber.

I. Behind the New Shift

When the 1958 budget goes to Congress in January, it will be based on a major reappraisal of current strategic policies and a three-year projection of military requirements now under way at the Pentagon—the so-called "second new look". (BW—May26'56,p26).

But it is already clear—from remarks of Pres. Eisenhower, Secy. Wilson, and Adm. Arthur W. Radford, chairman of the Joint Chiefs of Staff—that new cutbacks and other important changes are in the works. Here's why:

• With every passing month there is a greater appreciation of what the new pushbutton arms can do. For instance, today's Army division—not counting nuclear warheads—has about 80% more firepower efficiency than the larger World War II division.

• The Administration is determined to control the cost trend—now streaking upward despite previous force cutbacks and the absence of any major program boosts. It costs as much to maintain 2,850,000 men in uniform today as it did a force 550,000 larger three years ago. The steel strike and resulting price hikes are expected to tack on about $30-million to defense costs this year.

• There's a serious belief in many high circles that Russia has abandoned direct military action as a means of imposing its will because of the fear of U.S. nuclear retaliation.

• **Critics**—This brings up the basic criticism leveled at the Administration's defense policy: The horrible prospect of nuclear retaliation makes it unlikely the H-bomb will ever be used—and this may cancel out its deterrent value. Because of what he calls "mutual deterrence," Gen. Maxwell D. Taylor, Army Chief of Staff, argues that "limited aggression" is now the greatest threat, that this "can be met primarily with ground forces."

The critics contend that new manpower cutbacks would leave the U.S. badly prepared to fight small local wars—say, a possible outbreak over Suez. The key question becomes: What is the irreducible manpower minimum as the latest super weapons become operational?

• **Answer**—The Administration's answer is this: The upcoming cutbacks do not envisage any elimination of ground troops. No one has bought the view of Air Force extremists that a future war will be over in 30 days. Adequate conventional forces will be maintained to handle the local, police-action type conflict.

A top-level Pentagon civilian official explains it like this: "If you have two or so hot spots in the world requiring a division or two each, you don't use atomic weapons. If total requirements go well over four divisions, you use atomic weapons."

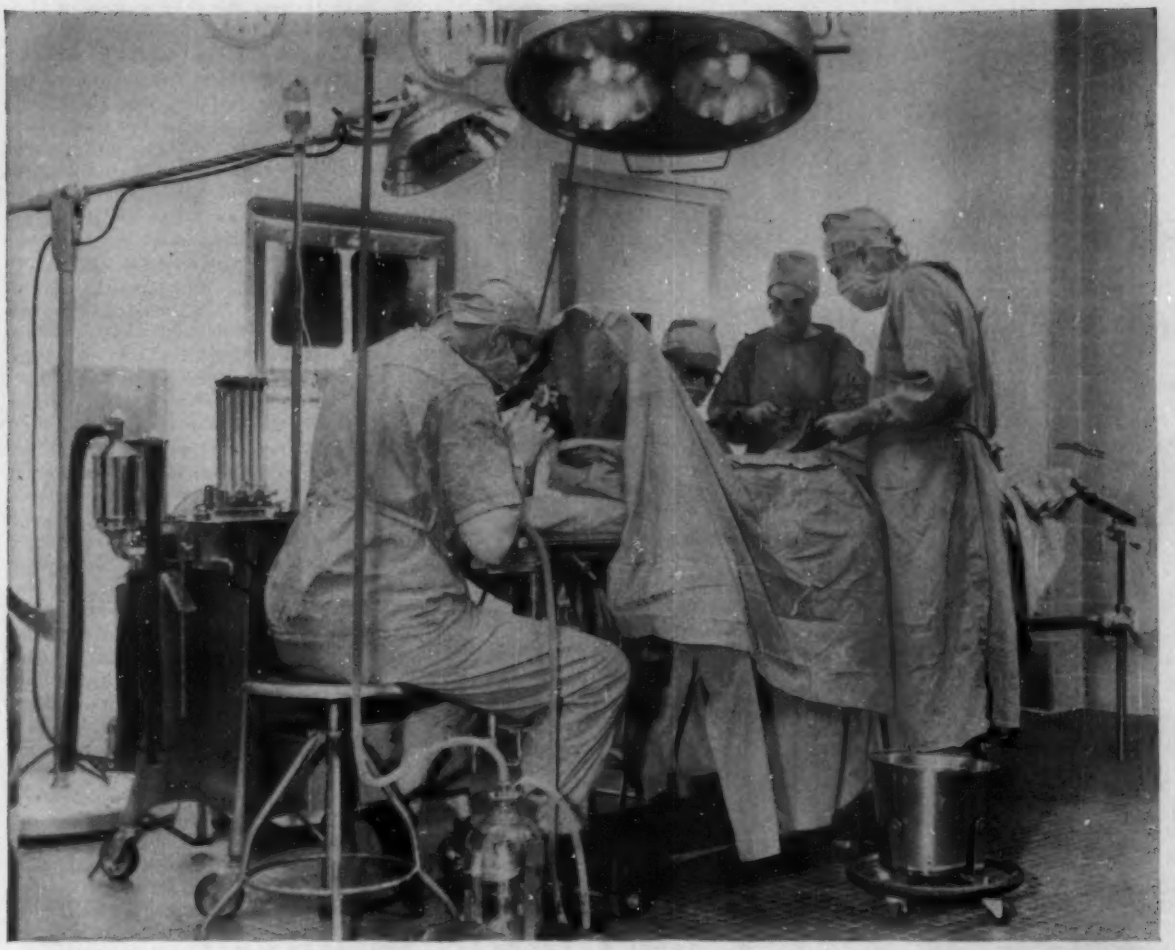
At that point, the feeling is, the distinction between tactical and strategic A-weapons blurs, and the prospect is that a general war will have developed. The key to this theory is the conviction that under no conditions would either the U.S. or Russia allow itself to be defeated without resorting to every weapon in its arsenal.

That means the Korean War—with nine U.S. divisions on the line—would no longer be considered a police action—and there would be no question about the use of atomic arms in such a conflict.

Another angle—understandably played down by Washington—is that the U.S. is looking to its allies to supply the extra men in future peripheral wars, that we'll back them up primarily with air and naval forces.

II. Atomic Age Army

The trend toward more pushbutton weaponry and less manpower has knocked the Army out of its position of primacy in the military scheme. The Air Force and the Navy's air arm



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have become the chief sources of U.S. military strength.

• **Sluggish**—In line with the new defense concepts, the Administration has kept the Army's shift into the atomic age at a sluggish pace. For three years, the Army got no new procurement money. It's understood that only about 10% of the Army's 19 divisions and 10 smaller regimental combat teams are being reshaped as atom-armed units.

Part of the reason is the Army's traditional caution about switching from the tried and true to something not tested in combat. The Defense Dept. now is prodding the Army to modernize at least as fast as the budget allows.

• **Atomic Arms**—Rough estimates are that it would cost at least $300-million to reequip a division completely for atomic war—against the $69.5-million that equips a conventional division.

The Army's atom units are equipped with 280-mm. guns, 8-in. howitzers, Honest John rockets, and Corporal guided missiles—all of which can also be fired with conventional explosives. The new ground atom firepower has outdated all traditional artillery concepts. A 280-mm. A-gun, for example, fires a shell at least 20 miles, has an explosive force superior to 20 battalions of the most advanced non-nuclear artillery, can devastate an area two miles wide.

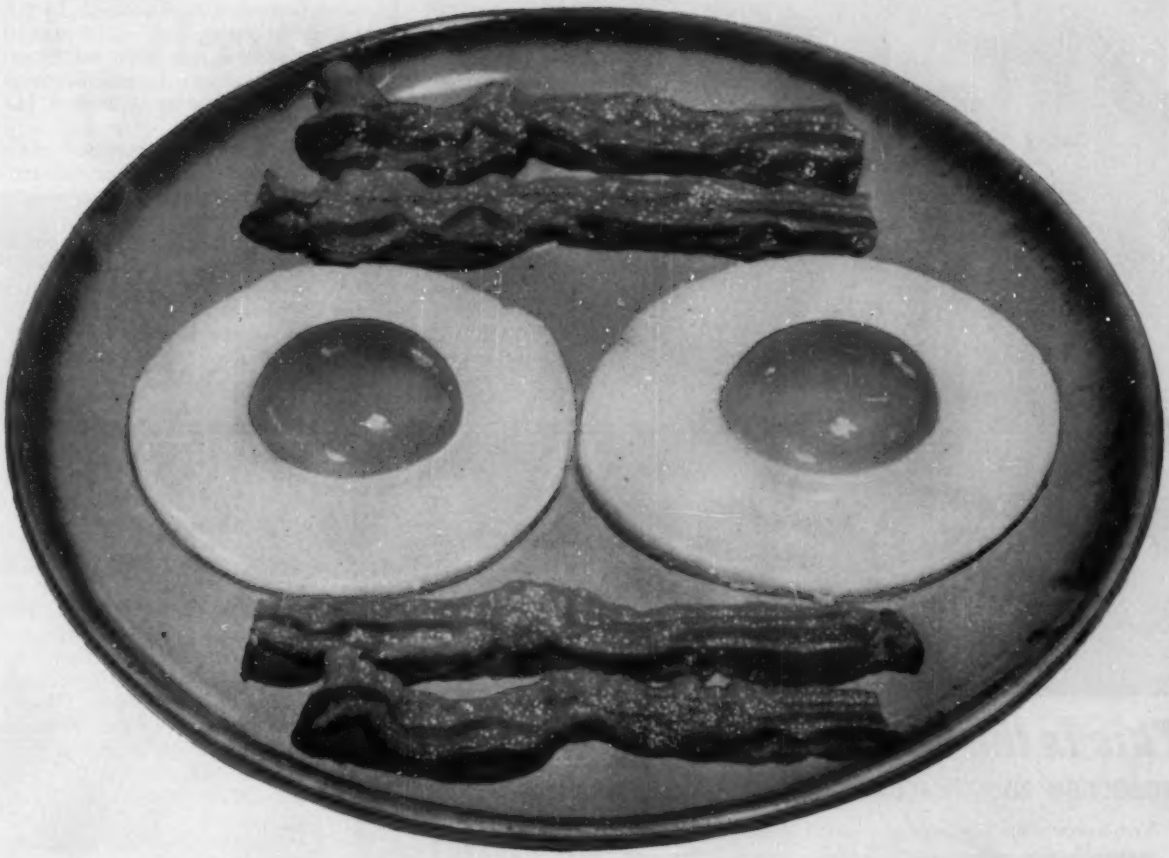
The Army would like smaller atomic warheads for use in mines, recoilless rifles, tanks, guns, and such. There's some criticism that so much of the Atomic Energy Commission's fissionable material output goes for big bombs that there's not enough for smaller, precision-type tactical weapons.

Despite the Army's traditional conservatism, some Army officers are also disgruntled over lack of money and material for a host of projects to make the foot soldier a better atomic age warrior. These range from gas turbine tank engines, troop-carrying helicopters, and vertical take-off planes to one-man "aerocycle" flying machines and advanced "terradynamic" troop-carrier armored vehicles. "Terradynamic" is a fancy term cooked up by Army researchers—on the model of "aerodynamic"—for land transport using revolutionary tread or wheels to get over terrain that holds up conventional vehicles.

• **Skeptics**—The skeptics—notably Air Force men—like to ask how the foot soldier could live in the face of a nuclear blast—or what value there would be in occupying territory saturated by H-bombs.

The Army answers that even in a general war H-bombs can't be used indiscriminately—that terrain and prevailing wind can curtail their value, that we'd also want to get hold of some enemy targets as intact as possible.

• **Scaling Down**—For atomic age war-



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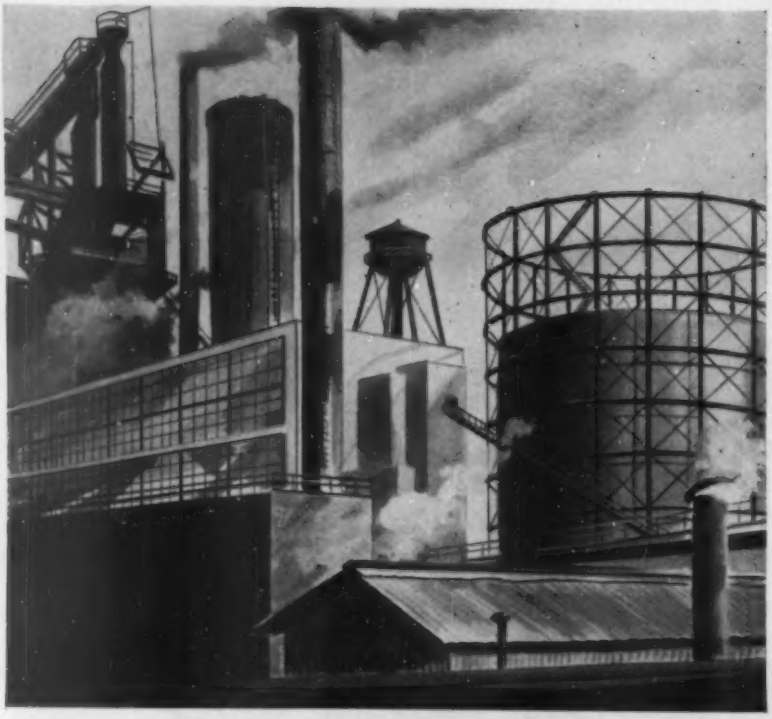

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fare, the Army is emphasizing mobility and dispersion as its objectives. To this end, it is testing new self-contained units smaller in size than traditional combat forces, and is experimenting with a special airborne division of 11,500 men.

In hitting back at proposed manpower cuts, some Army men are generating scare talk that the reductions would mean—to our foreign allies, at least—that an isolationist America is withdrawing into a "Fortress America" shell. But there's no element of this in the new plans.

Of course, the Pentagon is writing off by 1960 many "exposed" overseas bases—such as those of the Strategic Air Command in Morocco. But by then, the medium-range B-47s using the bases will be replaced by intercontinental B-52s.

III. What About Industry?

The new military policy has much meaning for the civilian economy—in terms of industrial production and the induction of young men into service.

To industry, it means that plants no longer in active production figure less prominently in future plans. This is on the theory that: (1) Present arms output is sufficient for a limited war, and (2) if a general war breeds highly increased needs for weapons and equipment there would be little time for a World War II or Korea-type industrial mobilization.

Sen. Stuart Symington (D-Mo.) sums it up like this: "The idea of . . . an economy that affords the opportunity to change automobile plants to tank . . . and bomber plants is pretty illusory as against the facts of life with respect to any future war."

• **Cutbacks, Too**—In line with this thinking, long-range industrial mobilization plans are being scaled down:

• Last year the Defense Dept. killed the so-called Vance plan for stockpiling at least $400-million worth of machine tools for arms production after an M-day. One of the prime movers in killing the plan was its author, Harold S. Vance, former head of Studebaker Corp. and now a member of the AEC.

• Two thousand plants were recently removed from the Pentagon's Register of Planned Mobilization Producers—the master list of plants lined up to produce top-priority military goods in wartime. A bigger reduction is planned for January.

• Next month, 470 weapons and pieces of equipment will be dropped from the Preferential Planning List, which now sets down 970 items for which future producers are lined up.

For the first time, Pentagon officials stress that although the producers'

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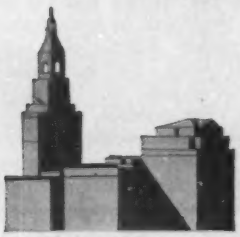

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register is set up for all-out mobilization production, it also counts in current military procurement. A regulation is being drafted to set forth this policy.

• **Illogical?**—Some businessmen are taking a hint from the trend in government mobilization planning. Col. Willard Rockwell, president of Rockwell Mfg. Co., for example, advocates opening the government's nickel stockpile to metal-hungry civilian consumers. He and others like him argue that it's illogical for the government to hold onto—or even build up—its multibillion hoard of metals and minerals in light of the new strategic thinking.

Right now, there's little chance that Washington will listen to such pleas. There are too many political issues involved. Indeed, the General Services Administration and Office of Defense Mobilization are about to buy $40-million worth of machine tools to build up stand-by marine turbine producing capacity in 10 private plants—a Navy project that was turned down by Pentagon budget officials.

There are other inconsistencies. Both the Army and Navy stockpile "packages" of machine tools for production of weapons are no longer required. The Air Force has long pushed for use of this equipment whenever possible in current production of any defense item —and in recent months its position has been gaining strength. Says one top-level Pentagon official, "We're spending too much on stand-by plants."

IV. Maintaining the Draft

One big question in the new military policy is the future of the draft. The present conscription law runs through 1959, and may be continued on the books past that date.

But looking at the statistics you can see how fewer and fewer young men will be taken in the future—unless some sort of universal military training program is enacted.

This year, about 1.2-million young men will reach the 18½ draft age. Excluding the 22% expected to be physically or mentally disqualified, and the enlistments and exemptions, you wind up with an annual pool of 650,000 draft eligibles, of whom over 200,000 are deferred to continue their education. This year's draft total, however, will come to only 136,000 men.

When the military force is cut still further, there will be even fewer draft calls, of course. But the plan is to keep the draft going. For one thing, it is needed as a prod for the enlistment program. For another, it has psychological value for foreign allies with an urge to drop their own draft systems. So a minimum 6,000-man monthly draft call is likely. END

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In Washington

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"Pork Barrel" Veto Comes As Shock to Congressmen

Last weekend, Pres. Eisenhower polished off the last of the bills left him by the departed 84th Congress with a flourish of vetoes.

Most important measure vetoed was a $1.6-billion river and harbor authorization, commonly known as the "pork barrel." Into the barrel this year, Congress had put 113 projects, including 32 for which it had failed to get either a favorable review from Army Engineers or an opinion from the states involved. The 32 projects would have cost more than $500-million.

The veto came as a shock to many Congressmen planning to give their home districts an election year "present." Not since the late FDR did it in 1940 had a President vetoed a river and harbor measure. **But Eisenhower pointed out delay on river and harbor work can be avoided if Congress clears up the oversight on the 32 projects early next session.**

Other last-minute vetoes included:

• A bill, backed by public power advocates, that would have prevented Interior Dept. from raising rates charged by Southwestern Power Administration to cooperatives and other preference customers by a total of $2-million.

• A bill that would have exempted from the federal corporation tax any income that real estate investment companies pay out in dividends.

On the affirmative side, Eisenhower signed into law a measure setting up a $100-million program for 50-year loans to help state and local water users build irrigation and flood control projects. The ceiling on federal loans for most projects will be $5-million.

The total boxscore on the final session of the 84th Congress shows Eisenhower signed 1,041 bills and vetoed 23.

• • •

Democrats Take New Swipe At GOP on Dixon-Yates

Though the Democrats were busy with internal politicking at their Chicago convention this week, they still found time to fire fresh ammunition at the long-repudiated Dixon-Yates contract and the Eisenhower Administration.

Before flying to the convention, Sen. Estes Kefauver (D-Tenn.) demanded a grand jury investigation of the role played by high Administration aides in original arrangements for the contract. He charged that Presidential assistant Sherman Adams, Budget Director Rowland Hughes, and Atomic Energy Commission Chmn. Lewis L. Strauss "deliberately attempted to conceal the conflict of interest" of Adolphe Wenzell in the case. The Administration canceled the contract after public disclosure that Wenzell was a Budget Bureau adviser on the project while a salaried officer of First Boston Corp. The company became financial agent for the Dixon-Yates combine.

Kefauver's new attack was tied to a report by the staff of the Senate Judiciary subcommittee that called the Dixon-Yates contract "a dramatic case study of waste, disorder and confusion . . . [in] governmental action, which is calculated to serve big business rather than the public generally."

• • •

U. S. Will Put Up a Show At Communist Trade Fair

The Commerce Dept. this week released a schedule of 12 international trade fairs in which the U.S. will present exhibits this fall. It revealed that for the first time the U.S. government will participate in a Communist fair—at Zagreb, Yugoslavia.

Many sources believe the decision is a forerunner to future participation in trade fairs behind the Iron Curtain. However, in the view of responsible officials, exhibiting in Tito's Yugoslavia and Soviet-dominated Communist nations are two different things. **They feel that, ultimately, the U.S. will take part in fairs of Soviet satellites, but only after a few problems are ironed out.** Among them is most effective coordination of business commercial aims and official governmental propaganda aims.

• • •

Short-Form Stock Prospectus Gets a Second Look From SEC

The Securities & Exchange Commission is collecting opinions about a new selling aid for dealers in stocks and bonds: a streamlined prospectus summarizing basic facts about new issues.

Chances for approval of the prospectus are regarded as favorable, but SEC won't decide until after its Oct. 31 deadline for comment on the plan. The idea is to allow the short form to be used only in solicitation of buyers for new issues of companies whose securities are already listed on an organized exchange.

Dealers see one advantage in being able to use the short prospectus for solicitation before SEC gives formal approval to the issue. As it is now, the only summary permitted is the so-called newspaper prospectus, and this can't be published until after SEC has approved the issue.

• • •

A Little Uranium Goes a Long Way

As a test of fuel consumption, the Atomic Energy Commission ran a Nautilus-type nuclear power plant at full throttle for 66 days on a single charge of fissionable fuel and still had enough left for several hundred more hours of operation. This means the atomic-powered submarine can in theory run submerged around the world at top speed and still have a big reserve of fuel left. A conventional diesel-powered sub would use about 1.6-million gal. of oil for the same trip.

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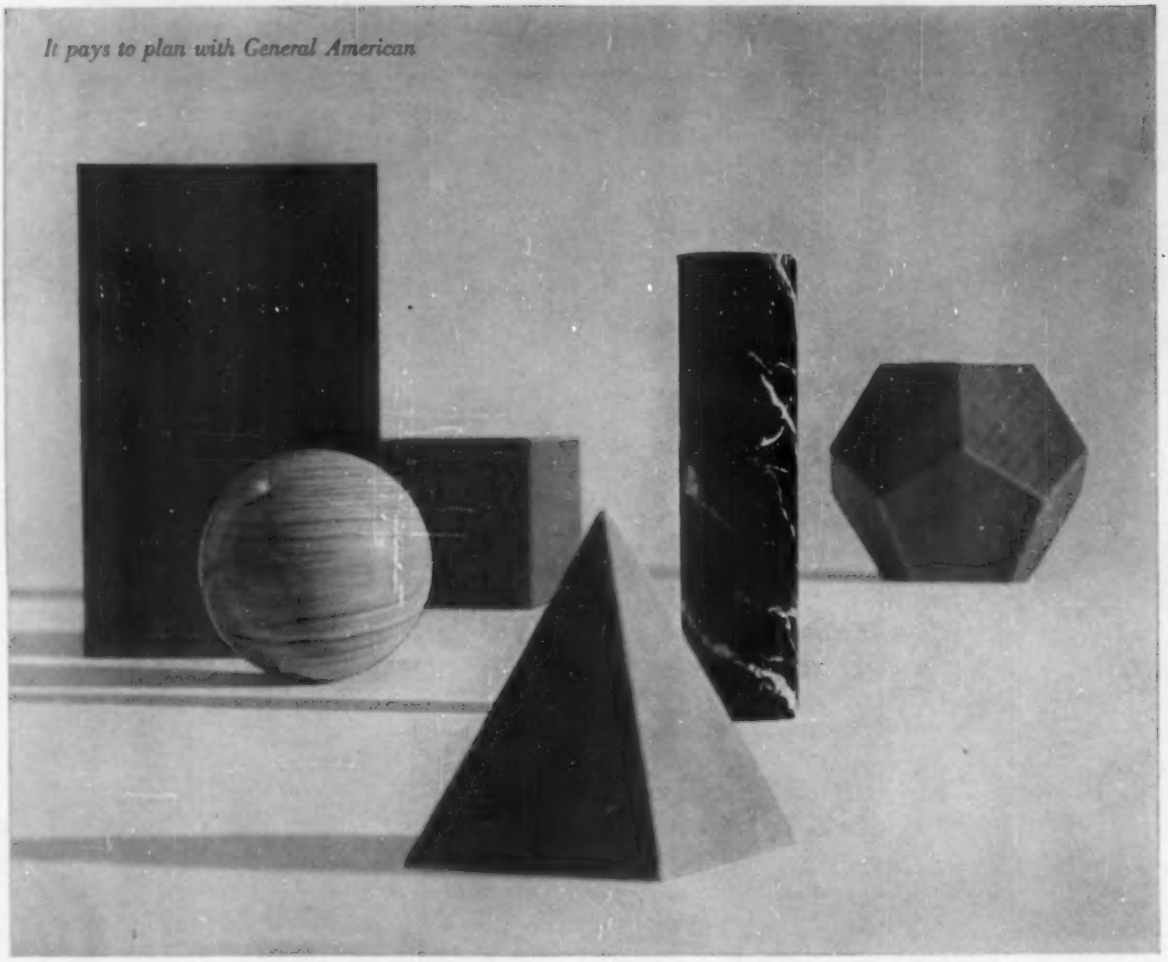

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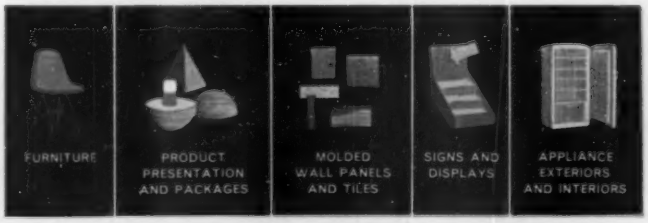

INTERNATIONAL OUTLOOK

BUSINESS WEEK
AUG. 18, 1956

The first round in the Suez conflict has ended in a draw. The main antagonists—Britain's Prime Minister Eden and Egyptian Pres. Nasser—both have had to pull their punches.

Nasser was restrained by Russia and India. Neither Moscow nor New Delhi liked his plan to boycott the London conference, which opened this week. Both Soviet Foreign Minister Shepilov and Indian Prime Minister Nehru's spokesman, Ambassador Krishna Mennon, are there.

Eden was checked by India and the British Labor Party.

Nehru used his Commonwealth membership to demand and get Eden's promise that the London conference would be no rubber stamp affair. And after the first feverish days, the **Labor opposition** swung over to a policy of temporizing with Nasser; this eliminated Eden's sharpest weapon—a united Britain ready for war.

Thus the conference opened in an air of anticlimax. **The immediate danger of war is gone.** Unless Nasser provokes a showdown—which seems unlikely—the Suez crisis now passes from the hands of the military strategists into those of the diplomats, the lawyers, and the economists.

The conference will probably move along in three stages:

- First, **the foreign ministers of the Western Big Three will try to iron out their differences.** They need an exact formula to present to the larger conference on how they would internationalize the Suez Canal.
- Next, the West's joint proposal will go to the conferees where it is likely to **meet some sort of counterproposals from the smaller nations**—led by India.
- The last step of the meeting will be to try to formulate a compromise from all these ideas—if possible—into a **scheme that Cairo will accept** for international control of the canal.

This last aim will be the most difficult. **The gulf between Nasser's stand and that of the West is still so wide that no solution is in sight.**

This week, Nasser modified his position somewhat. He no longer talks of financing the Aswan Dam out of canal revenues; he has avoided all conflict over the canal tolls. Nevertheless, he is sticking to his basic stand that **the canal and the Suez Canal Co. are subject to exclusive Egyptian sovereignty.**

The Egyptian dictator is offering the West treaties whereby **Egypt, and Egypt alone, would guarantee free passage to all maritime countries.** But the West—as State Secy. Dulles pointed out—is unanimously agreed that only effective international control of the waterway assures that.

Conference maneuvering will be complex. **The men to watch** are Shepilov and Nehru's man, Krishna Mennon.

Even though India will be one of the powers closest to Egypt at the conference, there are indications that **Nehru wants to cooperate with Washington**—as much as India's basic neutralist position permits. New Delhi is willing to approve more international control than it espoused earlier if that power is handed over to a U. N. agency.

Secy. Dulles hasn't excluded that. His policy is to make all necessary concessions to prestige and procedure as long as practical international control is achieved.

Shepilov may be aiming at something else, of course. Indications are that he is **angling for a stalemate** in London. Then Moscow would have a chance to get a veto power in the conflict, and at the right moment the Kremlin would come forward with a formula that both Cairo and the West would have a hard time refusing.

At the same time, **the West is also preparing for a third round after London.**

- Egypt will have to live with all the consequences of the **economic warfare that Eden has initiated**—and that he will intensify.
- The U.S. is preparing to **neutralize as far as possible Nasser's chief weapon** against the West: the danger that a blockade of the Suez Canal would pose for Western Europe dependent on Near East oil (page 171).

This week the Office of Defense Mobilization set up an oil industry committee to study the possibilities of a crisis **if Near East oil is cut off.** The committee's immediate assignment is to gather, analyze, and formulate data to determine just what would have to be done.

If the emergency should come, the committee—acting under the Secretary of the Interior—would:

- Arrange for **pooling terminal, storage, and transportation facilities** of all the companies.
- Arrange for **exchanges of crude between companies** by loans or other methods to meet domestic and foreign requirements.

Washington has even begun to talk about what would be done to **alleviate the payments problem for Western Europe** on a temporary basis if it had to start buying its petroleum in the Western Hemisphere. Such purchases would add an estimated $1.2-billion a year to Europe's dollar bill.

—•—

The U.S. and Canada moved this week to wipe out one obstacle to **wider Canadian ownership in U.S. company subsidiaries in Canada** (BW—May5'56,p50). A new amendment to the U.S.-Canadian reciprocal tax convention drops the amount of ownership the U.S. parent must hold before dividends remitted to the U.S. company get a preferential 5% Canadian withholding tax. Until now, the U.S. parent had to hold 95% of the shares in the Canadian subsidiary before it got the use of the anti-double taxation clause. **Now it can hold as little as 51%.**

—•—

The London conference has incidentally given Tokyo a breathing spell. Now it can decide what's next in its **negotiations with the Russians to regain some of the islands it ceded Moscow after World War II.** Foreign Minister Shigemitsu has been getting nowhere with negotiations in Moscow to regain the territory.

Tokyo feels now it will probably have to **settle for something like West Germany's decision to exchange ambassadors with Moscow** even without any progress on German unity. Premier Hatoyama's problem is that Japanese public opinion doesn't want to accept that kind of solution. At the same time, Hatoyama is under pressure to secure **fishing rights** off Soviet Asia and **entry into the U.N.**—both of which have been vetoed by Moscow until now.

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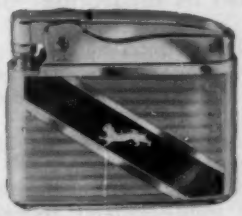

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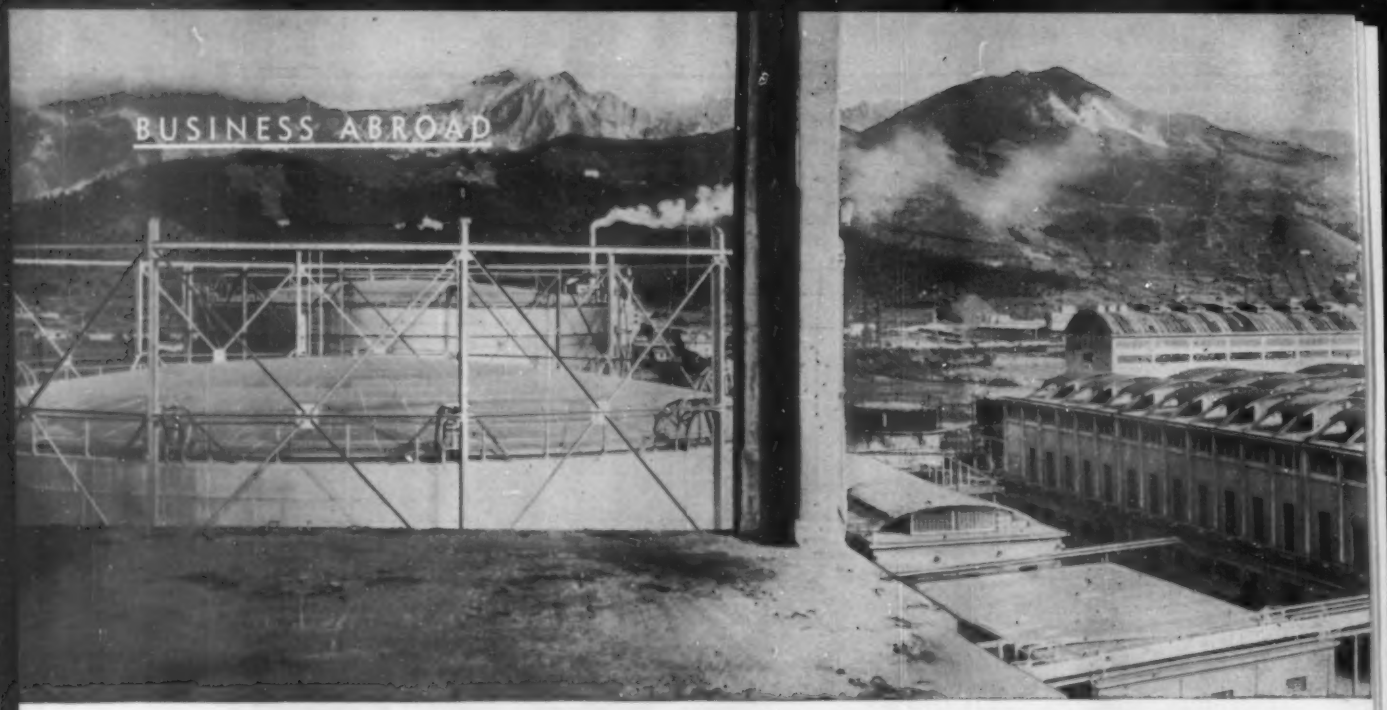


This nitrogen fixation plant at Carrara Avenza is part of Montecatini's vast chemical-mineral combine in Italy. Long an industrial giant at home, the company now is out to broaden its reputation—and income.

An Italian

MONTECATINI is Italy's industrial colossus—a chemical-mineral empire that virtually blankets the country from the Alps to Sicily.

For almost 80 years, Catini—as Milan bankers and brokers often call it—has stuck close to Italian soil. The Carrara Avenza plant (picture) for nitrogen fixation is only one of some 120 mining, production, and research units in Italy owned and operated by Catini. The company's products span the chemical-mineral alphabet, from aluminum and fertilizer to oil and zinc.

Italy hasn't been Catini's only interest. Its holdings encompass about 45 affiliates—including a handful in France, Belgium, Holland, and Germany—in which it owns up to 50% of the stock. It boasts 101 plants around the world, built since the 1920s, that use Catini patents and knowhow. And last year the company's foreign sales were a comfortable $40-million.

• **Basic Strength**—But historically—and amazingly—Catini has sustained its growth primarily on Italian resources, production, and sales. Last year's sales, mostly in Italy, came to $223-million—nearly double 1950's $122-million. Even more impressive, if you include sales by affiliates, is the 1955 sales figure of $375-million.

Today Catini is flexing its muscles, eager to fight for a stronger position in world markets. Its name is as well known—and its reputation as fully respected—as du Pont or Britian's Imperial Chemical Industries. But now, for the first time, Catini feels ready to burst out of Italy's confining boot and capitalize on its products and patents around the globe.

• **Eye on U.S.**—A major target is the U.S. Already, at least 20 U.S. chemical and oil companies are eying Catini's plastic resin, isotactic polypropylene, for possible licensing (BW—May12'56, p127). The company's top management, in turn, is considering a joint venture with a U.S. oil company or a full-fledged subsidiary.

On Wall Street these developments involving the Italian company are causing interest:

• Arrangement with J. P. Morgan & Co. to issue American depositary receipts that, in effect, represent easily traded shares of Catini stock.

• Catini's desire to get listed on the N. Y. Stock Exchange, alongside such illustrious European-controlled companies as Royal Dutch Shell.

Catini is pushing here for bigger dollar earnings, for broadened prestige. Elsewhere, outside Italy, it sees potential markets for its old standby—fertilizer—as well as for the newer plastics. But by no means is the company neglecting its home base. In Italy, expansion into synthetic rubber, oil, and uranium lie ahead.

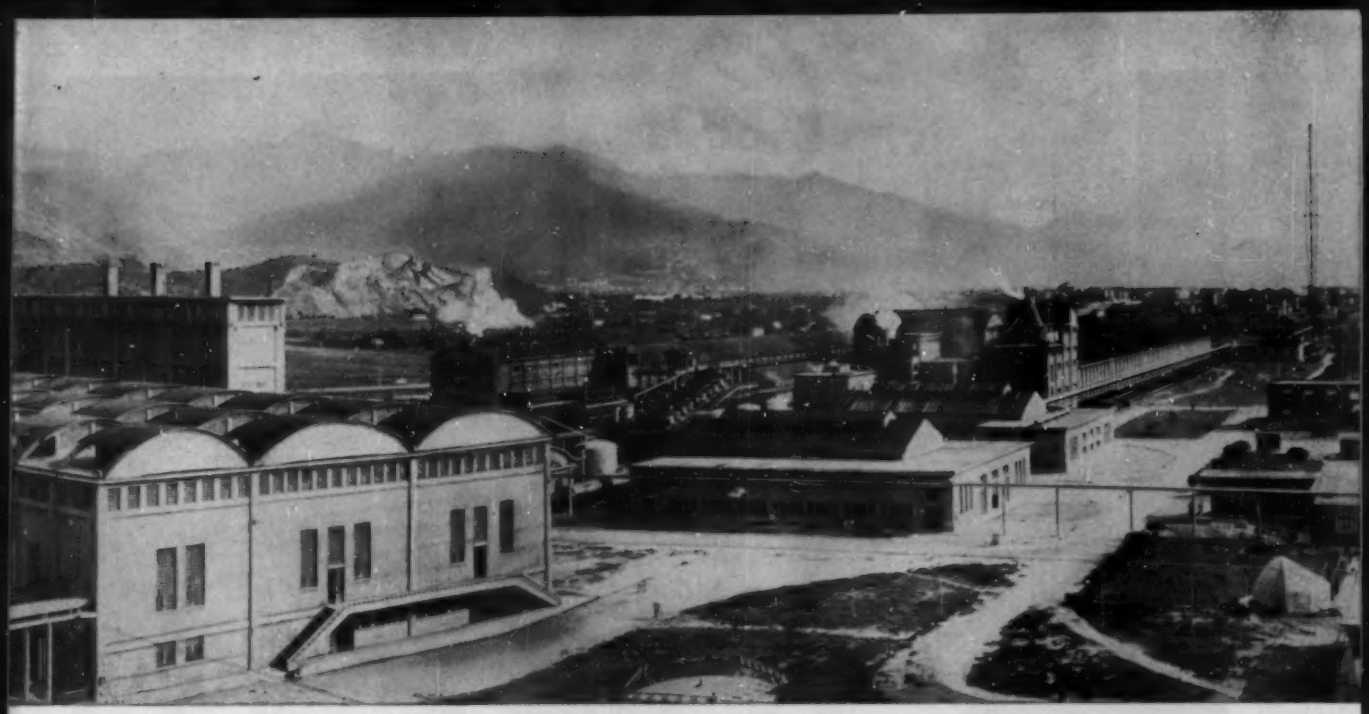
Ask any chemical-industry specialist how Catini ranks in assets, worldwide, and he'll place it in fourth or fifth spot—ahead of German chemical companies, but behind ICI and the U.S. giants like du Pont and Union Carbide. Actually, in sales, Catini ranks ninth.

• **Scope**—Where Catini tops its competitors, anywhere, is in its scope. None can match its diversity. Just now, U.S. chemical companies are moving toward greater diversification—into aluminum, for instance. Catini was doing this over two decades ago. Instead of buying intermediate chemicals and upgrading them for resale, Catini has consistently followed a policy of digging from the ground, processing the minerals through all stages, and marketing the final products to industry and the public.

I. How It Grew

In Italy—at least—Catini is king of the chemical industry. Strictly speaking, it's not a monopoly. On the books are 5,500 other Italian chemical companies—small or medium-sized. But of the 170,000 workers in Italy's chemical plants, 62,000 are on Catini's payroll.

Of Italy's large industrial concerns, Fiat (cars, steel, washing machines, airplanes, vermouth) is the frontrunner. Pirelli (tires), Finsider (steel), Olivetti (office equipment), Motta (foods), and Snia-Viscosa (fibers) also are familiar



Colossus Turns to World Markets

blue chips. Together, these companies—with Montecatini—direct Italy's economic policy.

• **Impact**—But Catini's impact alone on the economy is terrific. It produces 35,000 tons of aluminum—57% of Italy's total. It mines 1.2-million tons of pyrite annually—or 89% of Italian pyrite output. It produces 80% of the country's bauxite, 64% of the phosphates, the major portion of all chemical products. It generates 2.6-billion kwh. of electric power or 8% of Italy's total—and uses every bit of it.

Not all of Catini's operations are profitable. While fertilizers and insecticides—both practically a monopoly—are big sellers, Catini's sulfur production is in the doldrums because of antiquated extraction methods and low-cost Western Hemisphere competition.

• **The Mainstays**—But diversity, research, and protection—Catini's three mainstays—make up the difference. Catini off sets its failures in one area with successes in another. For example, though sulfur isn't paying off, aluminum is doing fine. Yet Catini says that sulfur will pay off in a year or two because of a "revolutionary" extraction method its researchers have developed. Altogether, the company has some 700 top-flight engineers and scientists, in addition to researchers in Italian universities paid on a fee basis. And Catini actively searches for products and processes abroad. It makes synthetic fibers (nylon included) and paints, for instance, from du Pont patents.

Probably the chief factor behind Catini's success is protectionism. Catini talks free enterprise but simultaneously puts up effective arguments for keeping competition out.

• **Good Connections**—Several directors on Catini's 17-man board have open connections with the government. One, Senator G. Battista Boeri, is a member of the administrative council of the Italian Reconstruction Institute, the government's holding company for investing in industry and public works. Boeri is also president of a banking consortium that finances large projects. Another board member, Dr. Bernardino Nogara, bears the official title of Administrator of the Vatican's Interests. Still another influential man is Giovanni Agnelli, a big stockholder in Fiat and a powerful industrialist in government circles.

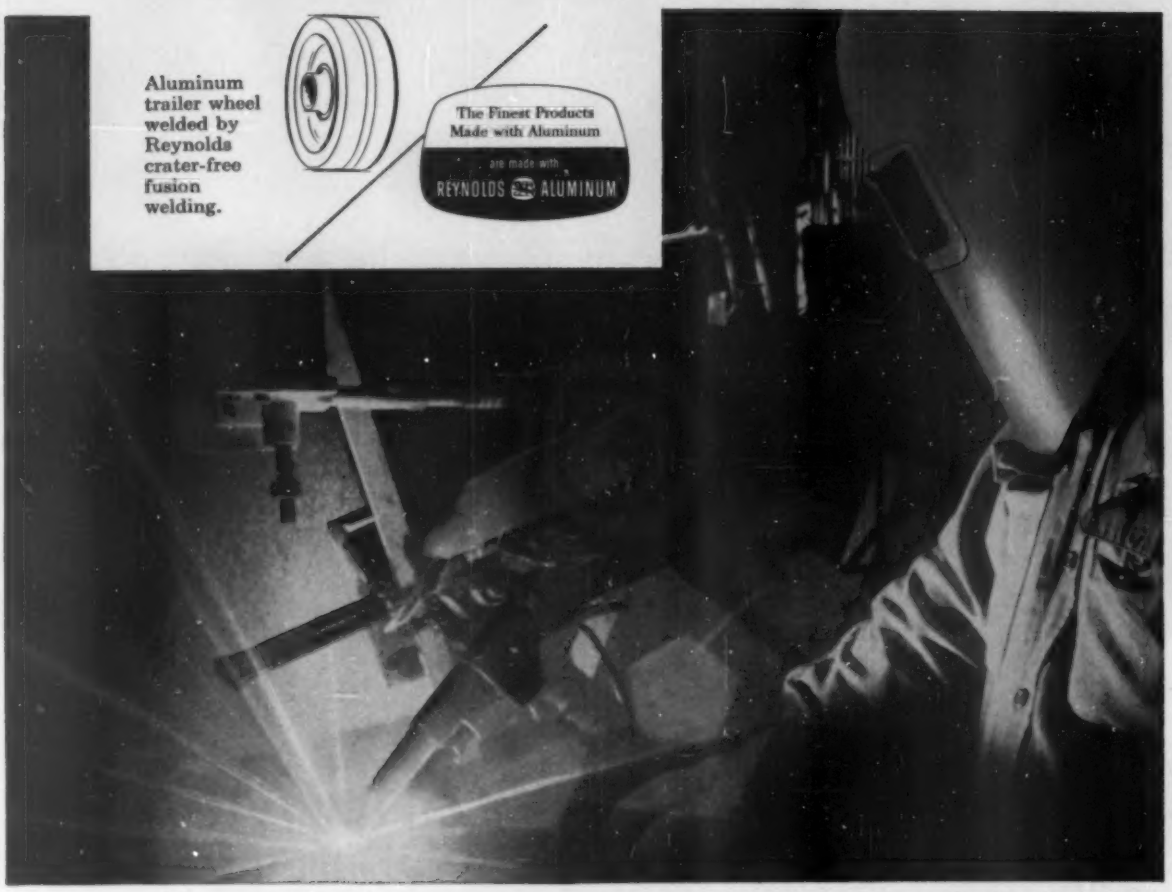
• **Investors**—On financial matters, Catini is close-mouthed. But of the 84-million shares outstanding, the heirs of founder Guido Donegani (who died in 1947) reportedly hold 10%; private banks, 10%; the government, 8%; and financial institutions directly or indirectly linked with the Vatican, 25%. The rest are spread among 200,000 private shareholders, with large blocs owned by Catini executives and by Dutch, Belgian, and Swiss investors.

• **Top Management**—The top man in the organization is Count Carlo Faina, chairman and president. Under him, at the policy-making level, are several leading scientists. Operations are run by two managing directors. One is Faina, who specializes in finances; the other is Piero Giustiniani, the technical-minded executive who spent a month in the U.S. recently discussing the polypropylene licenses.

Catini's top management won't let outsiders get close to its methods of operation. But businessmen who have worked with Catini say that Faina, at his desk in the marble-faced headquarters in Milan, knows what is happening everywhere in the organization, partly through daily progress reports.

• **First Copper**—Coping with a company this size is quite a change from Catini's early days. It started in 1888 with the discovery of copper at Montecatini—a Tuscan spa just above Florence. In the period up to 1910, Catini branched out from mining into chemical products. It built sulfuric-acid plants, then factories for producing badly needed fertilizers. In the next 10 years—spurred by World War I—it made the logical step to explosives and a wider range of chemical products.

• **Then Quick Expansion**—Through this period—and afterwards, too—Catini expanded quickly into new fields chiefly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It mines pyrites, sulphur, bauxite, lignite; makes aluminum, zinc, lead, cast iron. Chemical products include fertilizer, plastics, drugs, glue, paint, explosives. Its textile end produces Nylon, Movil, Terital.

PAYOFF

Total sales of $375-million last year place it ninth among chemical companies. Sales of parent company jumped from $122-million in 1950 to $223-million in 1955. Its 200,000 shareholders got $15.4-million last year.

PLANS

It wants to exploit more fully its patents and products abroad – especially in the United States. Here, it is selling stock, preparing to get listed on the New York Stock Exchange, licensing plastic processes, and planning a subsidiary.

by buying into, or buying out, existing companies. It would chop off unprofitable plants or product lines of newly acquired companies, feed money into those areas that demanded quick expansion. And through acquisition, of course, it eliminated most of its major competitors.

• **Profitable Alliance**—Mussolini and Montecatini made a great team. Catini fell in line with Fascism's program of economic self-sufficiency. The government guaranteed the company not only its existing markets for standard products, but also the markets for any–and all–new products. The government also encouraged Catini's rapid development of synthetics, which began in the 1920s. There were seemingly no financial troubles. For the Mussolini regime helped out, to the point where reportedly the government held 35% to 40% of Catini's stock. Donegani, director general and president, was a Fascist deputy to the Italian parliament.

Catini claims that World War II knocked out about two-thirds of its production. It's true that Catini emerged from the war lagging behind its prewar competitors–particularly U. S. companies. But Italian businessmen close to Catini say that while German and French chemical companies took a wartime beating, the Italian company only got scratched. So it's hard to tell whether the $130-million Catini says it spent on reconstruction went mainly for repairs to damaged plants or for new plants to utilize new, postwar processes.

II. New Orientation

At war's end, Giuseppe Mazzini took over the reins from Donegani. With Fascism dead (though Italy's governmental economic paternalism has never quite disappeared), it was Mazzini's job to put Catini back into free-world competition, to consolidate what Donegani had turned over to him. Many plants underwent a face-lifting; research in petrochemicals intensified.

Improved labor-management relations became a priority goal. The company pressed hard to disinfect its plants of Communists, and, by offering more in economic benefits than the Communist bosses could offer politically, it succeeded as well as any Italian company. Catini built some 7,000 homes for employees. It organized company medical services, instituted liberal bonus and retirement benefits.

• **Policy Switch**—Under Count Faina, Catini has broken through its nationalistic isolation, aims at worldwide expansion.

The breakneck pace of chemical-industry developments everywhere has been one factor. In addition, Catini wants to build its prestige abroad–and earn more money in world markets. Backing up Catini's new approach has been the economic boom at home and the Italian government's desire to depend less on U. S. aid, more on dollar

earnings to expand both trade and contacts here.

• **Growth at Home**—In the newer chemical fields, Catini has still found room to expand in Italy. The company can list these accomplishments.

• Construction of a plant for hydrocarbon products at Ferrara in 1952 that is considered the largest of its kind in Western Europe.

• Construction of a plant at Ravenna to produce synthetic rubber.

• Organization of an oil company, called Petrosud, with Gulf Oil Corp. on a 50-50 partnership basis. A year and a half ago it struck oil in the Abruzzi mountains. The first well is producing at the rate of 450 tons of crude daily.

• Start of serious prospecting for radioactive minerals in the Piedmont area. When the Italian government clears up legal problems in the atomic field, Catini will undoubtedly jump into the uranium business.

• **Two-Way Flow**—Up to 1953, Catini's postwar dealings in the U. S. were a one-way affair. It latched onto U. S. patents to boost home production and sales. Now the flow of technical know-how goes in both directions. Since 1953 Catini, for example, has licensed processes to Allied Chemical & Dye Corp., Shell Chemical Corp., and Blaw-Knox Co. Chemore Corp., Catini's representative headquartered in New York, has handled most of these negotiations.

With Italy's demand for natural gas outpacing supply, Catini sees the U. S. as the place to set up operations for making methane-based chemicals and plastics. It may license U. S. companies to use its polypropylene and other patents. But it may establish a full-scale subsidiary or join forces with a company whose plastic patents overlap Catini's.

• **Courting Wall Street**—Catini's arrangement early this month to issue American depository receipts is a big step toward getting listed on the N. Y. Stock Exchange. It even agreed to foot the bill for the usual stock transfer charges that shareholders of foreign securities here normally pay. At present, the company hopes this will happen by December. Catini's aim is not to issue new stock here at the moment, but to make its name and reputation so well known on Wall Street that later financing—possibly of a plant in the U. S.—will be easier.

• **Farflung Plans**—Meanwhile, Catini is traveling all over the globe. It plans to produce aluminum in French Guinea, thinks a similar project in the Belgian Congo might be feasible. In Pakistan, it is building a power plant. It has all sorts of contracts for building nitrogen plants in its pocket. And it is pushing fertilizer sales, from Brazil to Formosa. **END**

Hoerner Boxes, Inc.
has been keeping company with
Armour for

25 years...

"Pleasant as a picnic" could describe Hoerner's 25 years with Armour & Company. Tins of Armour Star canned meats travel from three packing plants to supermarkets neatly sandwiched in sturdy Hoerner corrugated containers. And Hoerner's dependable service keeps shipments on time.

If your packaging operation is no picnic, call in a Hoerner Packaging Engineer. His specialty is slicing through problems.

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FABRICS for the world of Mr. Jones

Mr. Jones won't know it, but soon as he lands, hangs up his clothes and heads for the beach, the spider who lives year 'round in the Jones' cabin will inspect those garments with respect.

The spider is an expert on textiles. He invented a thread 280,000,000 years ago, so nearly perfect it's used today, as is—in the mechanism of a modern bombsight. He did it with his own remarkable chemistry.

Men, too, use chemistry—and chemicals from Hooker—in developing and perfecting fabrics for the world and wardrobe of Mr. Jones.

To natural fibers—wool, silk, cotton, linen—Hooker chemicals give resistance to wear, wrinkles, sun, shrinking. Man-made fibers—alone and in blends with natural fibers—offer textile qualities never known before. These ingenious fabrics are marketed at a cost brought within reach of everyone by chemicals, many supplied by Hooker.

Tank cars of muriatic acid, caustic soda, liquid chlorine; drums of benzoic acid, sodium sulfhydrate—and many other Hooker chemicals—feed the mills that give you and Mr. Jones a brighter, safer, more comfortable world. Hooker chemicals help keep unfading color in drapery textiles for your home and office, in upholstery materials for your easy chair or airplane seat. Hooker chemicals help make safe, durable, low-cost fabrics for rugged industrial needs. Hooker chemicals add comfort, style, long life to the clothes you wear.

Weaving usefulness into the fabric of modern life is the basic job of more than one hundred chemicals produced by Hooker. The job grows bigger almost hourly, as industry after industry discovers the benefits chemistry brings to familiar processes—and creates for existing new products.

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CORRUGATED bulk containers for color TV tubes save 69% cost, 47% space, 70% loading time

No maker of 21-inch TV picture tubes would risk damage in shipment just to save a few pennies in packaging. So for years they've used high cost individual boxes. Now one company finds that bulk corrugated containers give the same good protection, plus a flock of impressive economies.

Savings are gained in the cost of the material and packing time (69%), warehouse floor space (47%), and time required to load the boxes into railroad cars or motor trucks (70%). In addition, there are significant savings in transportation costs (37%), and shipping space (88%).

The tubes come off the conveyor and are packed six at a time into bulk containers. Then they're stacked, stored and loaded for shipment by fork lift truck. Boxes can go all the way to the TV-set manufacturer's assembly line without being opened—the need for the customer to install a costly conveyor is eliminated.

Because they are corrugated, the boxes are lightweight, low in cost, rigid enough to stack six to eight high, and resilient enough to cushion the tubes against shock. In over a year of use, not a single damage claim has been filed.

This is more convincing evidence that when you buy packaging, it's wise to think first of corrugated. Have a talk with your nearby boxmaker. He's listed in your classified telephone directory under "Boxes—Corrugated."

Langston doesn't sell corrugated, only the machines that make it. Since 1902, these machines have led the field in efficiency and dependability. *Samuel M. Langston Co., Camden 4, N.J.*

THINK FIRST OF CORRUGATED

LANGSTON Corrugated Container Machinery

Sparks From Suez Flying East

ARAB WORKMEN in the 6,000-square-mile Persian Gulf sheikdom of Kuwait waited expectantly this week for the result of the London conference on Suez. Like the rest of the Arab world, they have felt the tremor of anti-Western nationalism that has been rumbling through the whole Near East since Egypt's dictator Gamal Abdel Nasser seized the Suez Canal.

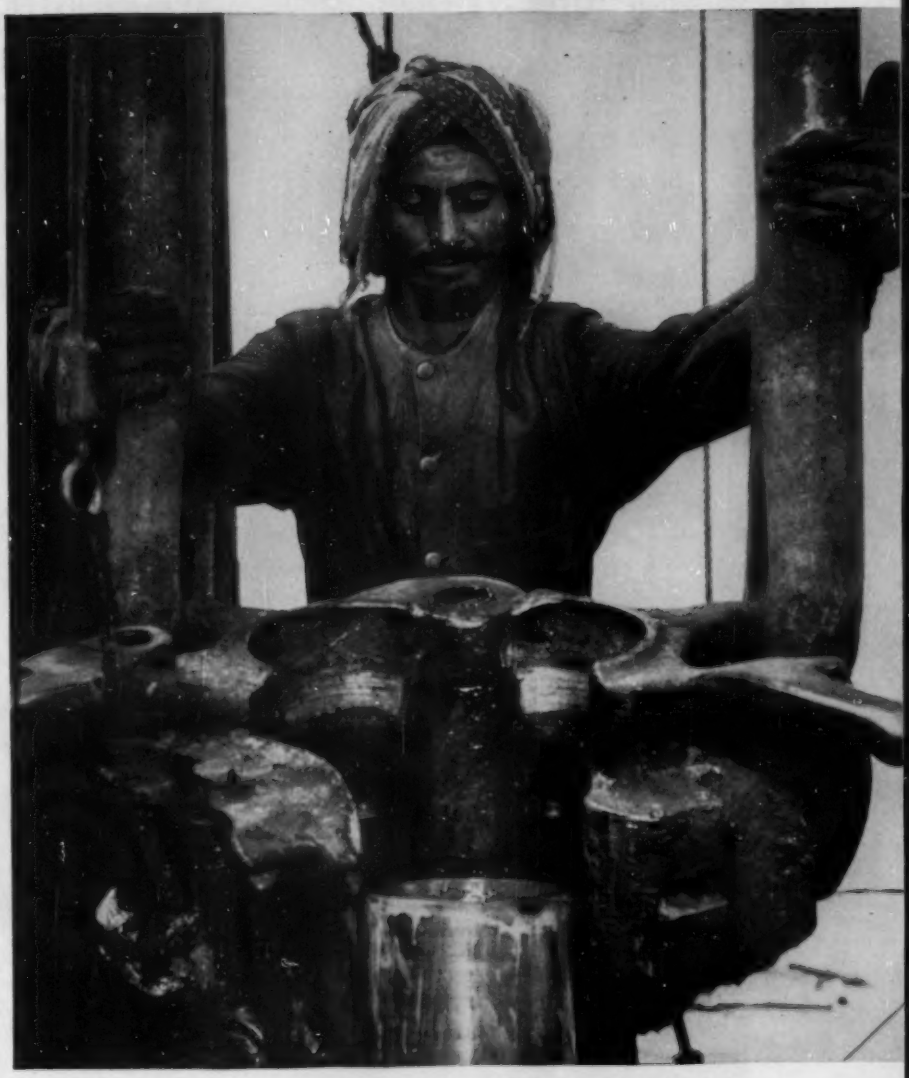
Kuwait's ruling sheik is allied to Britain. The Anglo-American Kuwait Oil Co. has brought the desert kingdom undreamed of riches—but still anti-Western Arab nationalism seethes just below the surface. Failure of the London talks to find a solution acceptable to Britain, and the West, and to Nasser, could set off a Near East dispute. Kuwait, until now one of the least volatile areas in the Moslem world, could explode.

Disturbances there would threaten Kuwait's oil exports—the largest single factor in Near East production. Last year, its production of 55-million metric tons was 38% of all Near East exports. It's increasing, running during the first six months of this year at the annual rate of 60-million metric tons. Proved reserves in three Kuwait fields—not including another area just discovered—are almost a third of all the known oil in the Near East.

• **Gulf Is Hit**—Most (77% last year) of Kuwait's production—owned 50% by the U.S.'s Gulf Oil Co. and 50% by British Petroleum Co., Ltd.—moves to its markets in Europe, Africa, and the U.S. through the Suez Canal. Unlike other Near East producers in Saudi Arabia and Iraq, Kuwait has no pipelines carrying oil directly to the Mediterranean.

• **U.S. Share**—Kuwait's dependence on Suez—and Gulf's dependence on Kuwait for much of its profit—explains why Gulf shares on the New York stock market reacted more strongly to the crisis than those of any other major U.S. oil company. By midweek, they were off about 20 points since seizure of the canal (page 178). Last year, according to Standard & Poor's, 46% of Gulf's earnings came from the Eastern Hemisphere, and 55% of Gulf's total crude production came from Kuwait. (Gulf also holds 7% of the Iran consortium.)

• **West Stake**—But much more is at stake in Kuwait than Gulf's profits. The sheikdom is an important source of oil for Western Europe. Britain alone imported 34% of Kuwait's production last year. And just as oil is essential to Western Europe's industries, so most oilmen believe Suez is essential to oil movement. How to ensure that free passage to the West without fanning fiery Arab nationalism is the problem the West faces this week in London.



KUWAIT OILFIELD worker is target of Cairo's anti-Western propaganda.

• **Rich Territory**—Even among the oil-rich areas of the Near East, Kuwait (map, page 172) is a fabulous land.

Oil first gushed in Kuwait's Burgan oilfields just as World War II ended. Now there are 395 wells producing in that field, 53 in the smaller Ahmadi-Magwa field. A new area is being developed at Raudhatain, and a fourth field has just been discovered in the north.

Only a few years ago, the port of Kuwait was known to few besides pearl divers and builders of Arab dhows. Now its population has more than doubled and the gain from 100,000 to some 220,000 has come mostly through emigration from neighboring Arab lands. The bustling port is one of the most modern oil centers in the Near East. A modern airfield serves as a busy connection to other Near East cities and the world.

• **Absolute Monarch**—Only one thing has changed little: Kuwait's absolute monarchy. Six years ago, Sheik Abdullah al Salem al Sabah ascended the ancient desert throne. He rules with recourse only to the British resident who serves as adviser. This relationship evolved out of an 1890 treaty in which Britain agreed to "protect" the sheikdom, and in the past this treaty has stood between Kuwait and its more powerful neighbors.

Abdullah certainly tolerates no op-

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Kuwait Oil Co.—

Owned 50-50 by Gulf Oil and British Petroleum —

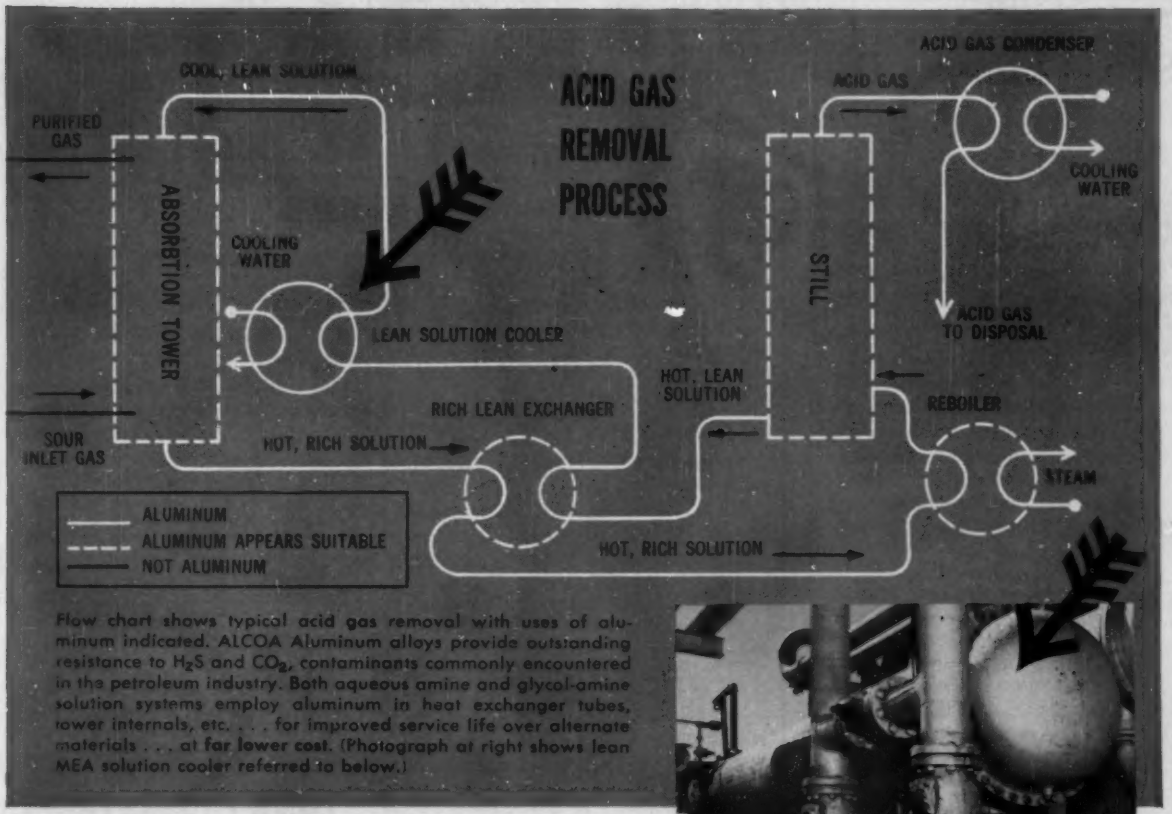
- **has 30% of the Middle East's known reserves of 92-billion bbl.**
- **produces 1.2-million bbl. daily.**
- **ships 63% of all Middle East oil moving through the Suez Canal.**
- **supplies 132-million bbl. annually to Britain, 110-million bbl. to Western Europe, and 50-million bbl. to the United States.**

position. But by Near Eastern standards, he's a model ruler. Very little of the annual $250-million in royalties from Kuwait Oil Co.—profits from crude production shared since 1951 on a 50-50 basis—goes for his personal expenses. That's quite a contrast from neighboring Saudi Arabia, where only the smallest part of the revenues received from Arabian-American Oil Co. is used for economic development, and royal squandering eats up the bulk of the money.

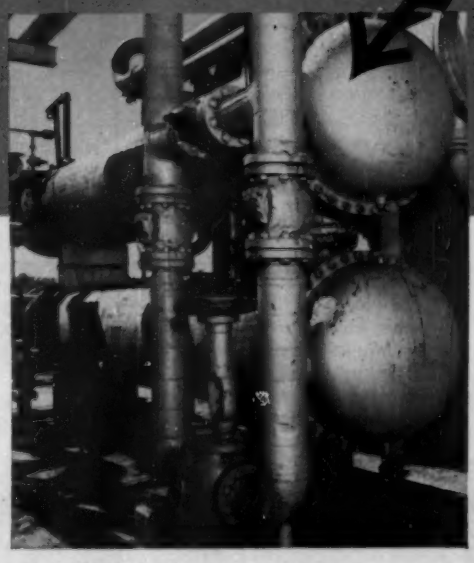
• **Ruler's Ambition**—Abdullah's ambition is to build a modern state. Under the impact of the oil revenues, and his ambition, the old walled city of Kuwait is giving way to modern air-conditioned buildings; 13,000 autos of all makes serviced by six brand new gas stations are crowding camels off the streets; more and more of the population is switching from the traditional burnoose to Western tropical suits; tiny Arab stores have been replaced by 4,000 modern shops, including supermarkets. The show piece of the whole 10-year development is a huge Westinghouse salt water distillation plant whose capacity is being doubled. In the old days, water had to be brought in by dhow from Iraq.

All this growth has come so fast that two years ago Abdullah's government embargoed further development hoping for a breathing spell to assess the problems. Even so, about $200-million has been spent in the last year on projects that were already under way, another

Major oil company proves corrosion resistance of **ALCOA ALUMINUM** Heat Exchanger Tubes



Flow chart shows typical acid gas removal with uses of aluminum indicated. ALCOA Aluminum alloys provide outstanding resistance to H_2S and CO_2, contaminants commonly encountered in the petroleum industry. Both aqueous amine and glycol-amine solution systems employ aluminum in heat exchanger tubes, tower internals, etc. . . . for improved service life over alternate materials . . . at far lower cost. (Photograph at right shows lean MEA solution cooler referred to below.)



Over 750 days' exposure to corrosive gas contaminants has proved to a major oil company the superior resistance of ALCOA Alclad Heat Exchanger Tubes. Used in the lean MEA solution cooler of a Girbotol Gas Treater, the tubes are exposed to a solution carrying 10 grains of hydrogen sulfide per gallon at the rate of 350 gallons per minute. After more than two years of service, the aluminum tubes are virtually unaffected.

Such service records have proved time and again that ALCOA Alclad Aluminum Tubes withstand corrosion best. Materials like hydrogen sulfide and carbon dioxide—normally corrosive to most metals—are not corrosive to aluminum. That means longer service life, less maintenance—to reduce process operating costs.

What's more, ALCOA Aluminum Heat Exchanger Tubes in the common sizes cost far less than seamless tubes of other common materials . . . one-half as much as Admiralty brass . . . one-third to one-fifth as much as cupronickel or stainless steel. It will pay *you* to use the handy coupon today for complete details.

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Compared to total plastics volume, Rogers materials play a small role. But they are solving many requirements for high strength parts and show great promise for printed circuits. We've augmented them with some extruded materials that expand our area of service.

Modifying basic types of materials to make them better for certain uses is our business. Perhaps you have a need for a material with special properties — properties unavailable in existing plastics, fibre sheets, or insulating media. Send in your specifications. We may have the answer.

Material Ideas For Product Improvement

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$100-million on maintenance and wages for government employees.

• **Spreading Benefits**—This is largely the way the benefits of oil development reach Kuwait's people. Kuwait Oil Co. itself employs only about 7,500 people —3,000 of these British and American. The government's expenditures have stimulated all kinds of economic activity by the sheiks, the merchants, and the landlords of Kuwait.

• **On the Spot**—But all is not sweetness and prosperity in Kuwait. A BUSINESS WEEK reporter in Kuwait this week cabled:

"There's little understanding of what would happen if the Suez Canal were blocked—and Kuwait's oil exports to the West halted. Kuwaitis don't understand that if this were to happen, Western Europe would have to turn to other oil sources, probably Latin America.

"Nor do they understand that if Kuwait were to lose its oil markets temporarily through blocking of the canal, it wouldn't be easy for it to win back those markets. They don't realize that much of Kuwait's present prosperity came at the price of lost markets for Iranian oil."

(When Iran, in 1951, nationalized Anglo-Iranian Petroleum Co., that company (now British Petroleum) increased its Kuwait production to make up for its loss in Iran; Iran is still having difficulty squeezing itself back into world markets, two years after a settlement.)

"The small crowds huddled around radios in Kuwait's coffee shops, listening to the vicious anti-Western propaganda of Radio Cairo, applaud Nasser's defiance of the West over Suez. Kuwait nationalism is being egged on by other Near Easterners. In Kuwait's schools are more than 200 teachers from Egypt, and they have been teaching Arab nationalism along with the three Rs.

"Popular enthusiasm for Nasser's anti-Western moves is not shared by Kuwait's sheiks and merchants. Sheik Abdullah's official representative told BUISNESS WEEK: 'His Highness hopes nothing will happen at Suez.'"

• **Danger Ahead**—And so it seems likely that if any incident set off violence at Suez, Kuwait would consult with the British government and with its neighboring pro-Western Moslem states—Iraq and Iran.

But Kuwait's sheiks and government officials, powerful as they are, probably wouldn't be able to stand against the force of hot-headed nationalism that would spread through Arab nations. These officials say that Communist cells have been uncovered in the sheikdom; that, unprecedented as such a move would be, it's possible that Kuwait would go on a general strike to stop the flow of oil if Egypt were to call for this support. END

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Zip Lip is ideal for protecting tools, delicate instruments and parts . . . also important documents, blueprints, shop tickets and other "on the job" work forms. Its uses are as varied as your imagination.

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In Business Abroad

• • •

Foreign-Flag Airlines Seek Capital Here to Finance New Equipment

Foreign-flag airlines are looking to the U.S. for capital to finance their way into the jet age.

Latest move is Belgium's authorization for Sabena to float a loan for $17.5-million through the Chase Manhattan Bank and the First National City Bank of N. Y. The money would be used to repay bank advances already made for aircraft and parts or for new purchases. Among Sabena's orders here are 12 Convair Metropolitans, 9 Douglas DC-7s, 8 Sikorsky S-58 helicopters, and 4 Boeing 707s.

Australia's Qantas Empire Airways, too, is hoping for U.S. capital—allotted as part of a larger U.S. loan to Australia—for purchase of jet aircraft. A three-man Qantas mission is here now, comparing the Boeing and Douglas jets with Britain's Comet IV. Both U.S. companies reportedly are willing to accept Qantas' Super Constellations as "trade-ins" toward an initial Qantas order for seven jets plus an option for five more.

Meanwhile, to make its name better known on Wall Street, KLM—97% owned by the Dutch government—is buying back from the government the equivalent of nearly $4-million worth of stock, planning to sell it in Amsterdam and New York. Two months ago it negotiated a record-sized $50-million loan for new equipment with Chase, First National, and Bank of America.

• • •

British Experts Working on Plan To Abolish Inter-European Tariffs

After 10 years of aloofness, there is now a real chance that Britain may join a Continental free trade area, plans for which are being drafted by the Organization for European Economic Cooperation. OEEC decided at last month's meeting in Paris to have its experts study such a move.

Britain's idea is that the Europeans would gradually abolish inter-European tariffs over 12 to 15 years. That would leave each member free to set its own tariff against outside countries. Britain would retain some imperial preference for the Commonwealth countries by exempting agricultural imports from the European free trade zone.

• • •

American Plants Are Damaged As TNT Explosion Rocks Cali

An explosion of seven TNT-loaded trucks in a military convoy last week leveled the center of Cali—Colombia's industrial boom town (pop. 250,000), 185 mi. southwest of Bogota. The blast, which may have killed over 1,000 people, brought forth cries of "sabotage" from Colombia's iron-fisted dictator, Pres. Gustavo Rojas Pinilla.

Most of the 50 U.S. companies and businesses that have been flocking to Cali in recent years escaped with only minor damages. Among those hurt: Sears, Roebuck, with windows and doors on its new store blown out; Goodyear Tire & Rubber, with its old, no longer used factory destroyed but its new warehouse merely damaged; Abbott Laboratories, with $40,000 worth of stock ruined; several others with still untallied damage.

Despite the $40-million total damage in the city, no U.S. businessmen were hurt—mostly because the explosion occurred at night in the city's poorer section.

• • •

Tit-for-Tat Barter Policy in Mexico Puts Auto Makers in Cotton Business

Mexico has lashed back at the U.S. government's cotton export program, which started this month, by admitting a wide range of imports of U.S. products and factory parts only in exchange for Mexican cotton.

This tit-for-tat barter policy is a blow to U.S. exporters who handle $700-million worth of business with the Mexicans annually. But it's even worse for the subsidiaries of General Motors, Ford, and Chrysler. The Ministry of Economy has told them that beginning in November, they will have to pay for 100% of their automotive parts imports through barter. This would total about $60-million annually—or roughly 30% of Mexico's upcoming cotton crop.

One auto spokesman says the companies can live with quotas, but "it isn't right to be asked to go into the cotton business." Minister Gilberto Loyo claims the policy may be relaxed soon. But Mexico's ambassador here bluntly says his government gave full warning to U.S. officials when the cotton program was under debate.

• • •

Business Abroad Briefs

Far North pulp mills are planned in Alaska and northern Manitoba: Alaska Pulp Co., Ltd., of Tokyo, may sign contracts for a $55.5-million Sitka plant by this fall. U.S. investors will be asked to come in for $27-million of the financing. . . . Canadian interests will build a mill if International Nickel Co.'s $150-million to $200-million plan for Manitoba goes through.

South of the border: Monrose Chemical Corp. of California and private Mexican investors plan a $4-million chlorine and caustic soda plant at Irapuato, Guanajuato. . . . Pennsalt International of Philadelphia will erect a $3-million plant north of Mexico City to produce the same products. . . . Sears, Roebuck & Co., Mexico, will export Mexican shirts to stateside stores. . . . Tamsa, Mexico's only producer of seamless tubing piping, will ship $1-million worth of pipe to the U.S. this month.

Russian auto: Moscow announces a new version of the seven-passenger Moskva. The luxury car has an 8-cylinder engine, gets 11 miles to the gallon, and claims a top speed of 100 mph. It has two auxiliary collapsible seats and air conditioning.

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CHICAGO to CLEVELAND	$4.78
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DENVER to OMAHA	$6.42
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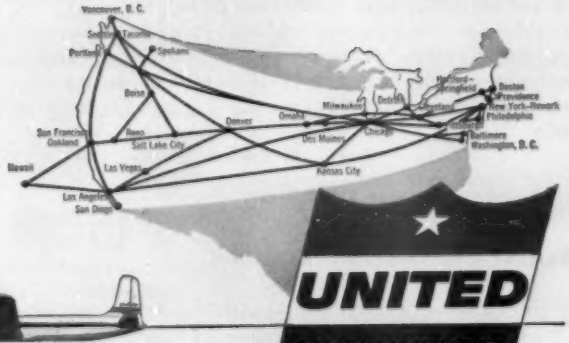
PHILADELPHIA to PORTLAND	$24.15
SAN FRANCISCO to BOSTON	$27.00

*These are the rates for many commodities. They are often lower for larger shipments. Rates shown are for information only, are subject to change, and do not include the 3% federal tax on domestic shipments.



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Wall St. Talks . . .

. . . about Ford's loan, school bond issue, second-quarter earnings, echoes from pre-Depression days.

Ford Motor Co. has arranged a $250-million 20-year 4% loan (BW—Aug.11'56,p137) with insurance companies, banks, and pension funds, Streeters hear.

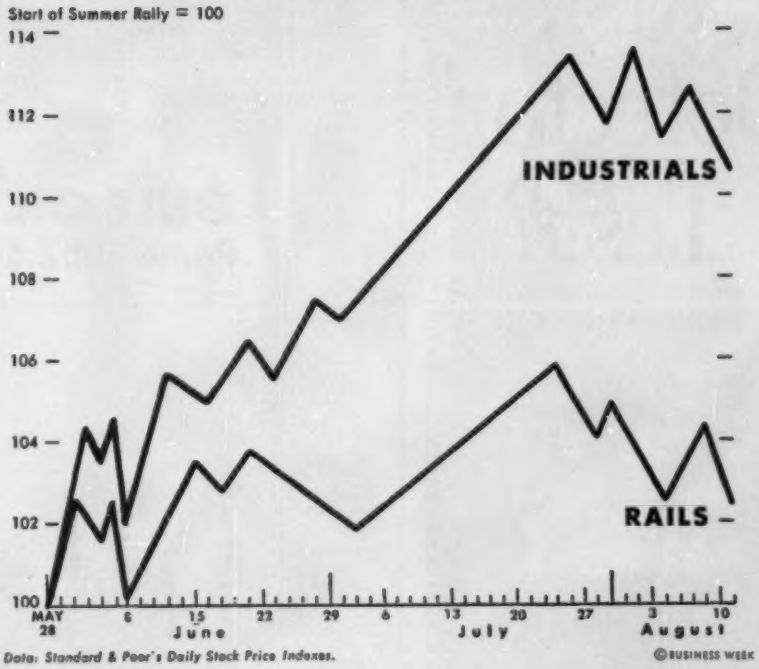
A neat trick—but.—Underwriters last week refused to bid for $13.7-million Pennsylvania State Public School Authority bonds because it was stipulated that the borrowing cost could not exceed 3%—a rate that seemed unrealistic considering today's tight money. Then the State Employees Retirement Board promptly bought them as an investment on a 3% basis, presumably not questioning what the yield on bonds of this quality should be. Cynical Streeters wonder why a non-tax paying pension fund is interested in tax-exempts—especially one yielding only 3%—when there are plenty of high-grade corporates yielding around 4%.

News with a sting: When S. H. Kress & Co. last week cut its long-maintained 75¢ quarterly dividend to 50¢, its stock promptly nosedived 19%—from $50½ to $41.

Second-quarter earnings were disappointing, says Moody's Investors Service. Early reports "suggested . . . per-share profits of industrials . . . (commons) . . . were still improving," but it looks now "as though a profit squeeze . . . (developed) . . . in the second quarter . . . (since) . . . the rate of output slowed down while costs continued to mount." A "large scattering" of companies, Moody's says, not only failed to "really better . . . first-quarter per-share figures but also . . . those of April-June, 1955 . . . though over-all industrial production averaged 3% higher in 1956." While these "results do not necessarily indicate the beginning of a trend, it would hardly do to ignore them."

A familiar sound? "We believe . . . the slump in stock prices will prove an intermediate move . . . not a precursor of a . . . depression. If recession should threaten serious consequences for business . . . there is little doubt that the reserve system would take steps to check the movement." (Harvard Economic Society; October, 1929).

SUEZ knocks the wind out of the summer rally



Data: Standard & Poor's Daily Stock Price Indexes. ©BUSINESS WEEK

Credit Pinch May Hurt, Too

This week, a wide range of diverse pressures squeezed the stock market. Most important, and looming bigger every day, was the Suez crisis. As the London conference opened, Wall Street held its breath in anticipation of what it hoped would be a peaceful settlement.

Suez has hit the international oils the hardest in the past three weeks, but the whole market has been shaky as developments in the Middle East unfolded. What Streeters are afraid of is that, with the market still very near its all-time top after an extensive summer rally, Suez may be taken as an excuse for a decline.

• **Slide Begins**—Suez has been the prime factor putting the brakes on the summer spurt that had carried Standard & Poor's index of 50 industrial stocks to a point 13% above its low of last May. The market seemed calm enough about Suez at first. But, as the situation worsened, the market tailed off. Early in the week, industrial stock prices stood 2% below their high, and had slipped back to the lowest level since July 9.

• **Tighter Money**—Another factor that is deadening the boom in stock prices is the sudden tightening of money (page 23). This week, it seemed certain that the Federal Reserve Board would O.K. discount rate increases from 2¾% to 3% for those 10 Reserve banks that still trail San Francisco and Minneapolis Fed banks. Undoubtedly, a boost in the rate bankers charge their prime risks would follow right on the heels of the discount rate adjustment, and the combination could be enough to throw the recent advance in stock prices into reverse.

• **Shrinking Yields**—The money markets, and particularly the corporate and government bond markets, have been a worrisome area for Wall Streeters for some weeks. This week, the yield on stocks had shrunk to 3.70%, and the yield on high grade industrial bonds had risen, as bond prices declined, to 3.35%. Thus the difference between yields on industrial stocks and bonds was only .35%, compared with a .45% differential on the eve of Pres. Eisenhower's heart attack last September. At that time, Street analysts opined that the skimpy spread between such yields was a definite sign of weakness in a market that was then collapsing fast.

• **Borrowers Balk**—This week, the tight-

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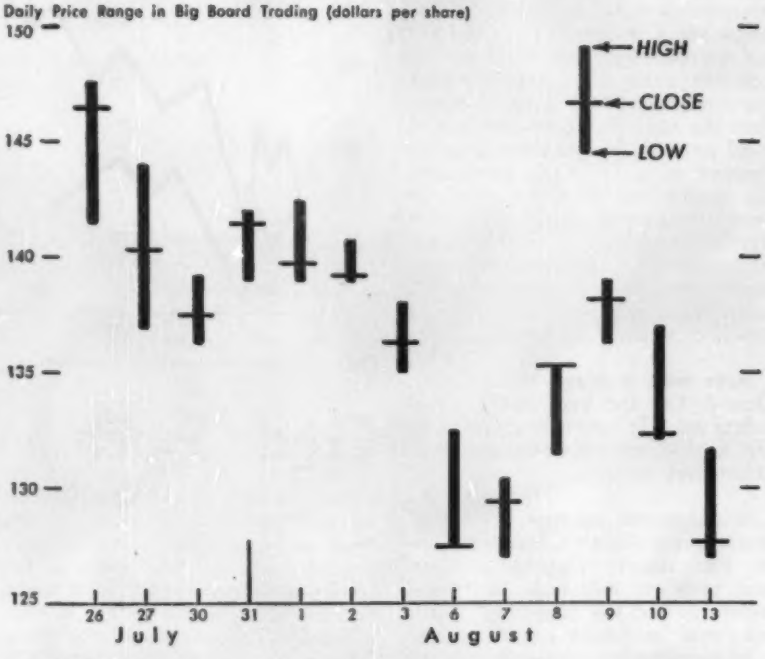
ness of the corporate bond market was further underlined as big borrowers dealt themselves out of a crucially tight interest rate problem. CIT Financial Corp. again postponed its $75-million debenture offering, and Commercial Credit, at the last minute, did likewise with a $50-million issue. Southern California Edison gave up on its scheduled bond offering because it regarded the terms as too stiff, decided to try a stock issue instead. Consumers Power had to raise its own ideas of the maximum interest it should pay on a bond issue from 3¾% to 4%. Then the top-rated utility nearly paid it, with a 3.98% yield on the price to the underwriters, and 3.94% figured on the offering price to the public.

• **Over Caution?**—Tighter money, coupled with an impending two weeks of uncertainty over Suez as the London conference goes on, could make investors so cautious as to possibly dry up stock purchases to a critical extent. When trading volume sagged well below 2-million shares last Monday for the first time since the July 4 holiday period, some Streeters took it as a signal of ebbing strength.

GULF OIL SHARES: Prime SUEZ SELLING Target



Data: BUSINESS WEEK.

Gulf Is Victim in Suez Dither

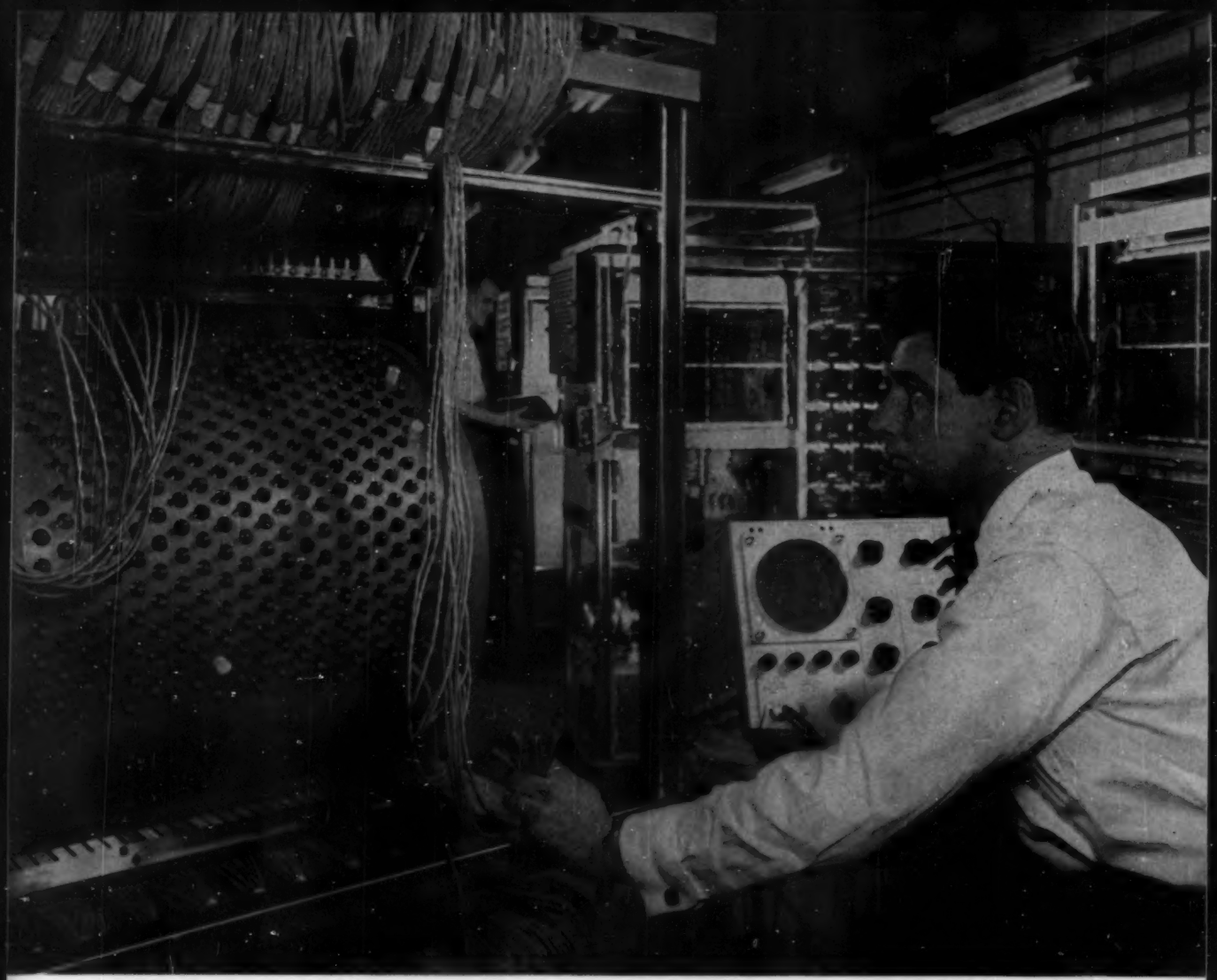
Wall Street was thrown into a dither when Egyptian dictator Nasser seized the Suez Canal, and confusion has been most rampant in stock prices of those oil companies with large Middle East holdings.

Gulf Oil Corp.'s common suffered most from the initial impact of the Suez crisis. Gulf, which gets some 55% of its crude oil from the Persian Gulf sheikdom of Kuwait (page 171) and around 46% of its earnings from Eastern Hemisphere holdings, dropped in two days from $146.50 to $137.50.

• **Roller Coaster**—Then the price roller coaster started as bad news ebbed and flowed in Western capitals. After the first shock, Gulf recovered to $141.62 a share; when British troopships moved into the Mediterranean it slumped to $127.50.

Gulf common's losses reflect Wall Street's uncertainty about the short-term chance of keeping oil moving out of Kuwait, and their belief that Gulf earnings would be trimmed if that source were blocked for any length of time.

Lost in the Suez shuffle was Gulf's superb 50% gain in six months earnings (page 127). These, the company noted, were due to a "proportionately greater" rise in its domestic earnings than in its foreign operations. END



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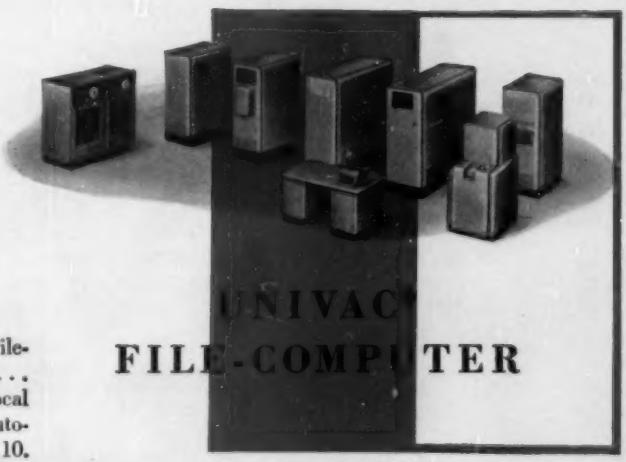

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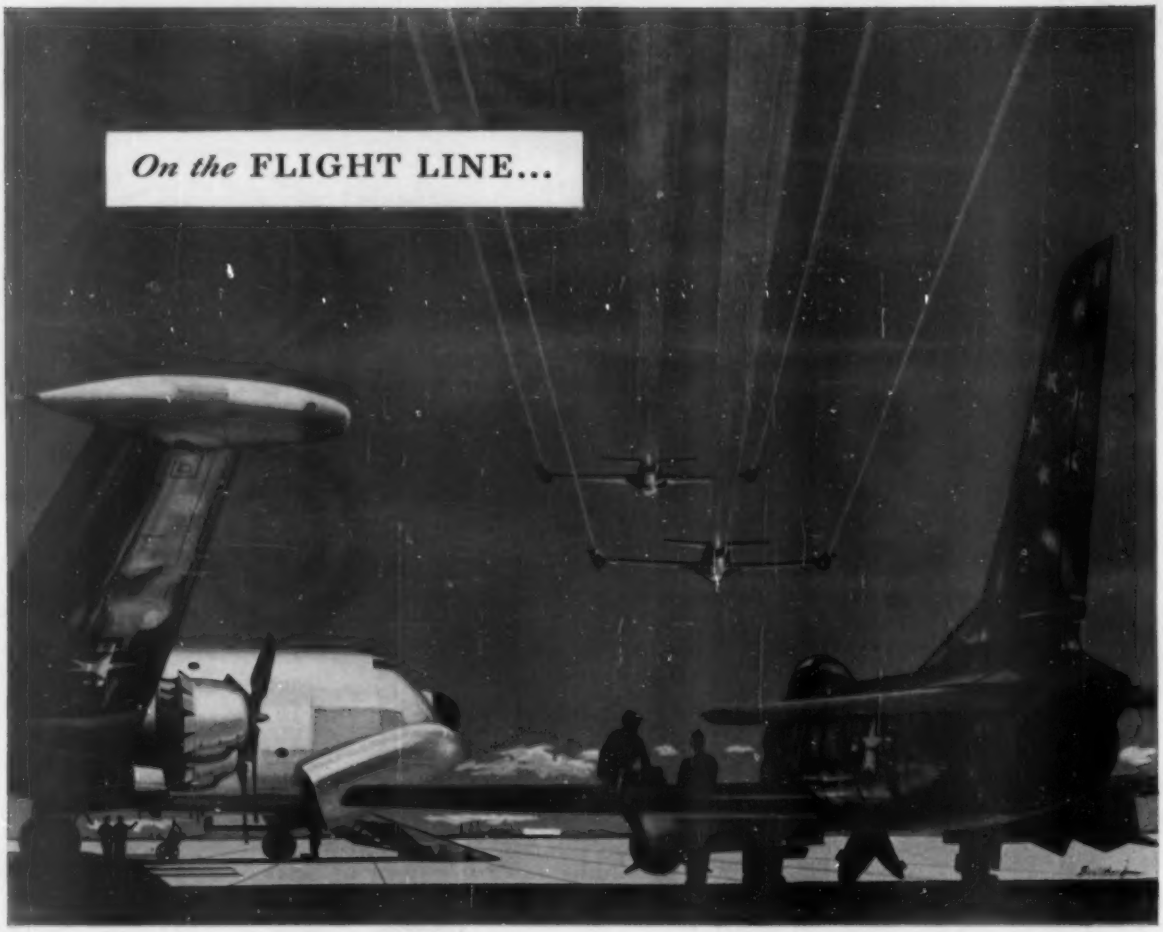

FIRST COST *can be the* LEAST COST

if it's the LAST COST

★ ★ ★ ★ The AL stainless steel and super high-temperature steels used in jet and rocket aircraft engines and equipment are pure economy, because they do the job that's required of them, and they *last!* They stand up under metal-killing conditions of heat, load and corrosion, and they're dependable.

There are lots of other jobs for stainless steel that aren't as spectacular, or perhaps as tough, as those aboard a jet. Like, for example, in hospital or kitchen equipment—or in cars, trains, appliances, buildings, etc. But, in these and thousands of other cases, stainless again gets the call. And usually, it's for the same big reason . . . because it not only does the job better, but lasts longer and costs less in the long run than any other material on the market.

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PERSONAL BUSINESS

Accommodations and tickets are still available for the 1956 Olympics, which run from Nov. 22 through Dec. 8 in Melbourne, Australia. However, you'll have to move fast if you decide to go. **Indications are that this year's games will be one of the most exciting series in history;** a record number of countries have entered and competition is keen.

All hotel reservations in Melbourne have been booked for the Olympic period, but residents have made rooms in their homes available for visitors. These guest homes have been inspected, graded, and passed by the Melbourne Olympic authorities; top price is $3.36 daily, including breakfast. You can get these guest accommodations (many are still available) through your travel agent or by writing directly to the Organizing Secretary, Olympic Civic Committee, Town Hall, Melbourne. (Indicate any special interests you have such as business, sports, hobbies; you may be able to stay in a home where there are mutual interests.)

With the exception of the opening ceremony, which has been sold out, **you can get tickets to any of the 144 events by writing to the Olympic Organizing Committee, 327 Bourke Street, Melbourne.** Top price for reserved seats at boxing and swimming events is about $7.30 each; prices for other events vary from 65¢ to $2.50.

In addition to sports, there'll be some artistic highlights during the Olympics. A national arts festival featuring music, opera, ballet, dramatics is planned to coincide with the Olympics to acquaint visitors with Australian culture.

Best way to get to Melbourne now is by plane (Qantas, Pan American, and Canadian Pacific airlines). Passage is available but don't wait too long. Ships are booked solid with a long waiting list. Round trip plane fares from the West Coast (Los Angeles or San Francisco) to Melbourne are $1,334 first class, $1,033 tourist, including tax. Flying time: about 36 hours. Regularly scheduled flights to Australia stop at Hawaii; you can spend some extra time at no additional transportation cost.

In addition to a passport (BW—Mar.17'56,p183), you will also need a visa for entry into Australia. But get your passport first; it must be submitted with your visa application. Visas can be obtained by mail within a few days from the Australian consulate in New York or San Francisco, or any British consulate.

November marks the beginning of Australian summer, so take light clothes and a raincoat. Temperatures will probably be in the upper 80s and low 90s—but humidity is remarkably low (generally 30% to 40%). Also, Melbourne is notorious for sudden changes in temperature, so be prepared for a cool day or two.

The Australian currency system is similar to Britain's. The common bill is the pound, officially worth $2.24 in American money. (There's no limit on the amount of money you can take in.) It's a good idea to carry a supply of one-shilling and two-shilling pieces (worth 12¢ and 24¢ respectively) for tipping. **Tip as you would at home**—15% of the restaurant bill, one shilling for a 5-shilling (60¢) cab fare.

Restaurants and hotels serve excellent food of all kinds; you can get everything from fresh seafood to Chinese chop suey (some of the top eating places: Mario's, Ciro's, Hotel Australia, Hotel Chevron, Menzies Hotel, Windsor Hotel).

Also, Australians are great steak eaters—it's not unusual to have a small steak for breakfast and prices are considerably lower than you would pay at home. (A steak dinner at a top restaurant costs about $2.50.)

Drinking is confined to hotels, clubs, and a few licensed restaurants. These restaurants do not have bars, but you can order a drink served at your table. (Try the Australian wines and champagnes—they are highly regarded in other countries.) And check with your own club before you leave; you may be able to get reciprocal privileges from an Australian club.

Note: Don't overload your suitcase with a lot of sundry items on the assumption they are unavailable in Australia. There are no shortages of any kind and prices are about the same as here, so take what you ordinarily would for a trip in this country.

—•—

Owners and partners in businesses always have a personal Sword of Damocles hanging over their heads: What happens to their business expenses if they become ill or disabled?

Almost always the answer is—these expenses keep right on piling up. **Now Saint Paul-Mercury Indemnity Co. has just come up with a "business-expense disability policy" to insure against these costs.**

The policy covers rent, heat, electricity, employees' salaries, and other such normal expenses. It even covers a pro-rated share of such essential costs as depreciation.

To collect, you must have a continuous total disability, requiring the regular care of a doctor, for at least one month. You can get indemnity for up to six months in any one period of disability.

Monthly benefits range from a minimum of $200 to a maximum of $1,000. Males only can get the insurance, and they must be between the ages of 21 and 55. (However, for a slightly higher premium, the insurance company will renew coverage through the age of 59.)

Premiums cost about $8 per year for each $50 of coverage. **(Thus, premium for maximum coverage of $1,000 monthly would be $160 a year.)** The Treasury regards these premiums as a business expense; they are tax deductible.

—•—

Note for hay fever victims: A new medication for hay fever is Plimasin, a combination of pyribenzamine and ritalin, a stimulant for overcoming fatigue. Tests show that, when given an average dose of the drug, 88% of a test group of patients experienced fair to excellent relief with no side effects of drowsiness; only 3% showed signs of becoming sleepy.

—•—

For the first time travelers can use a charge account to pay for services, incidental tips, and purchases made during an ocean voyage. The new service was initiated last week for first-class passengers on Moore-McCormack ships through a special arrangement with Travelers Credit Service.

After signing the shipboard charge account application, you can charge up to a maximum of $2,000 on one trip. An itemized bill is sent to your home or office, payable after your return.

—•—

Manners and modes: If you've traveled everywhere, don't give up. One astrophysicist predicts the possibility of interplanetary travel by 1966. . . . Pints and half pints of I. W. Harper whiskey will soon be on the market in their own gold-colored travel flasks.

Contents copyrighted under the general copyright on the Aug. 18, 1956, issue—Business Week, 330 W. 42nd St., New York, N. Y.

helping to mix a good, clear drink for 5 years

The city of Denver has, for many years, been noted for the purity of its drinking water. Transported from the western slopes of the Rockies through the famous Moffat Tunnel, the water is purified in the Moffat Filter Plant of the Denver Municipal Water Works.

It is here that *flexible* U. S. Pilot Pipe plays an important role—carrying the chemicals that purify the water—maintaining what is known as a good P.H. factor. This U. S. Pilot Pipe installation has given completely trouble-free service since the day it was put in. That was back in 1950—over five years ago.

With ordinary piping, lime in the chemicals builds up and clogs the pipe. But because U. S. Pilot Pipe is flexible, lime is easily broken loose by merely *tapping or walking the pipe!*

U. S. Pilot Pipe covers a range of working pressures—from 25 to 250 pounds—and handles a wide variety of chemicals and abrasives. It is custom-made to handle your specific requirements.

Contact our factory trained engineers at any of the 28 "U. S." District Sales Offices or write us at Rockefeller Center, New York 20, N. Y.

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Mechanical Goods Division

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DIVIDEND NOTICES make good reading. They reflect profitable operation in which good management, plants, equipment and production personnel play important parts. But before a company can make a profit or pay a dividend, someone has to buy the product. And in order to sell the product, it must have a market.

Men can be hired, factories can be bought . . . but *markets must be built.* A company's recognition . . . the preference for its products . . . is the result of a consistent, coordinated sales and advertising program.

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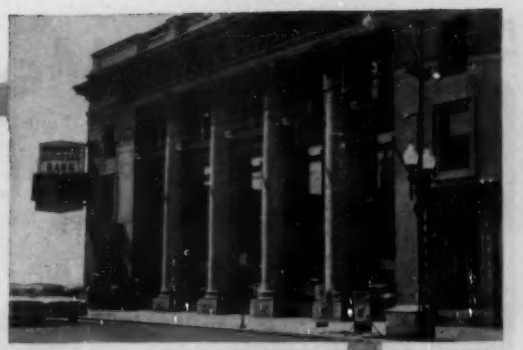
MORE THAN A MILLION MEN IN BUSINESS AND INDUSTRY



"The advertising promotional program of a company can have a material effect upon the market status of its outstanding securities. It certainly brings the company to the attention of not only potential purchasers of their products, but also any who might be interested in purchasing their stock for investment. The better known names seem to attract many more people even without the background knowledge of the financial situation, earning ability, or management of the company involved."

GEORGE R. BOYLES, PRESIDENT, MERCHANTS NATIONAL BANK
CHICAGO, ILLINOIS

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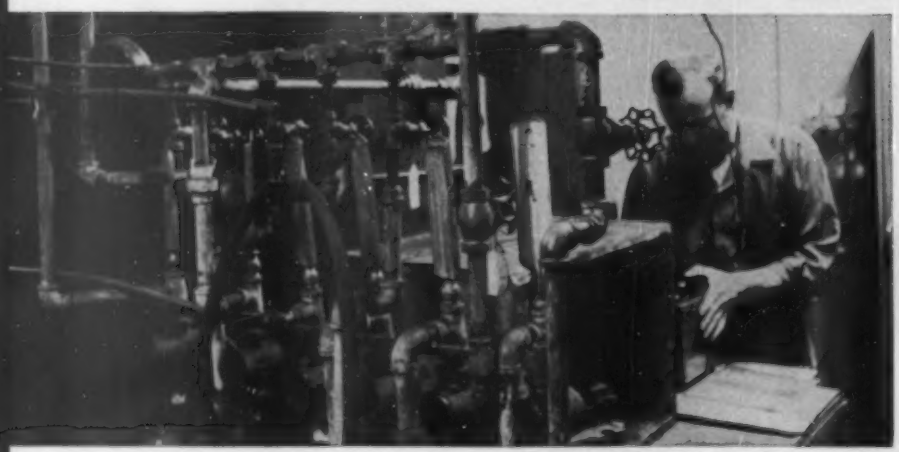
ABC

PRODUCTION

Metal Powder Core Toughens Cast Parts

LOADING Sintercasting combines powder metallurgy and investment casting. Here powder is put in a flexible rubber mold.

COMPACTING A hydraulic press (right) squeezes the powder into a rough shape. The pressure is around 1,500 psi.



SINTERING Vacuum furnace removes volatile impurities and fuses the shape into a hard, but highly porous mass.

A new metallurgical forming process, called Sintercasting, shows promise of licking some of the problems involved in making turbine blades, dies, tool bits, and other parts that require great precision and toughness at high temperatures. The process (pictures), still halfway between the laboratory and mass production, combines two widely used metalworking methods—powder metallurgy and investment casting.

In the first of these, powder metallurgy, a part is literally squeezed together from a powder, then baked—or sintered—at a temperature just below its melting point. This method saves the labor of machining and has little scrap loss. But the finished parts though often extremely hard have a tendency to be brittle and porous.

The other process, investment casting, uses a disposable mold to obtain an extra fine finish. It's especially good for intricately shaped parts made from alloys that are hard to machine.

With its new process combining these two, Sintercast Corp. of America believes it can achieve precision as great as any casting method, in parts that will retain strength and shape at temperatures up to 1,800F.

• **The Process**—Sintercasting is used with powdered material that has a very high melting point. Here's how it works with titanium carbide.

The powder is squeezed into a rough shape and heated to 1,400F in a sintering furnace. The grains of powder do not actually melt but fuse together to form a rigid, porous mass. The sintering is done under very high vacuum —about one micron. The next step

GRINDING The shape, ground to the dimensions of the finished product, is called a "skeleton."

INFILTRATING Special alloy, melted, fills the pores of the skeleton, adds new properties.

JENKINS VALVES

for another mid-town

Manhattan record-maker

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Control vital pipe lines
in giant network serving
"vertical city" of 10,000

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In choosing Jenkins Valves, however, the builders followed a familiar precedent. They took the same future-minded view of operating economy as the planners of so many of the other notable buildings that shape Manhattan's famous skyline . . . who also specified Jenkins Valves.

For new installations, for all replacements, let the Jenkins Diamond be your guide to lasting valve economy. Jenkins Bros., 100 Park Ave., New York 17.

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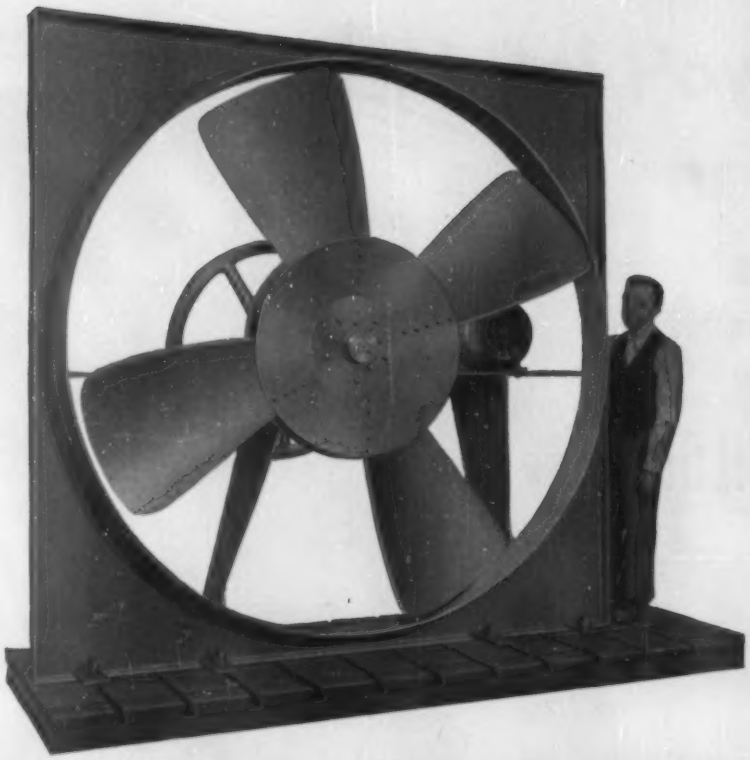
A DAILY "POPULATION" of 10,000 office-workers requires, for modern standards of comfort and convenience, piping comparable in volume and variety to that of some cities. The thousands of Jenkins Valves chosen for reliable, efficient, and safe control of major systems in this complex network include Iron Gates and Checks on the main city water supply; Cast Steel Gates with motor operation for remote control on fire lines; and Bronze Valves of all patterns on water, oil, air, and gas lines.



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Will they last on the job? And will they perform? The answer is in their record — these husky fans have been turning in excellent performance — typical recent atomic energy installations total 7,480,000 CFM. We will supply on request detailed data on numerous installations where "Buffalo" Package Propeller Fans are giving heavy-duty, day-in and day-out service with absolute minimum maintenance. It's because of the "Q" Factor*, that high standard of engineering that's gone into "Buffalo" Fans for the past 79 years. Write for Bulletin FM-315 — check it over with your contractor or engineer — take advantage of this more-for-your-money air moving!

**The "Q" Factor — the built-in Quality which provides trouble-free satisfaction and long life.*

"Buffalo"

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Sales Representatives in all Principal Cities

INDUSTRIAL EXHAUSTERS BELTED VENT SETS PROPELLER FANS "E" BLOWERS-EXHAUSTERS

is to grind the block by conventional machines to the exact dimensions of the finished part. At this stage, it is called a "skeleton," although to the naked eye it appears solid. This skeleton of titanium carbide will give the finished product a major part of its strength at high temperatures and its resistance to creep.

• **Infiltration**—The skeleton is now placed in a holder, packed around with a powder that serves as the investment mold. A chunk of alloy—usually nickel- or cobalt-based—is placed on top and the holder is put into an electric induction furnace.

The furnace is slowly heated to a level above the melting point of the alloy but below the distortion point of the skeleton. Gradually, the alloy melts and flows down into the mold, infiltrating all the pores of the skeleton and forming a continuous or solid "two-phase" structure.

After controlled cooling, the casting is taken from the furnace, and the excess alloy on top is trimmed off. The part is now ready for final polishing.

• **Fields of Use**—Sintercast parts are likely to find their widest use in gas turbines and jet engines. Even now, components made by the process promise to operate beyond the temperatures presently used (about 1,600F for jet turbines). And as better skeleton materials and superalloys are evolved, it will be possible to combine them by Sintercasting to provide an infinite variety of properties.

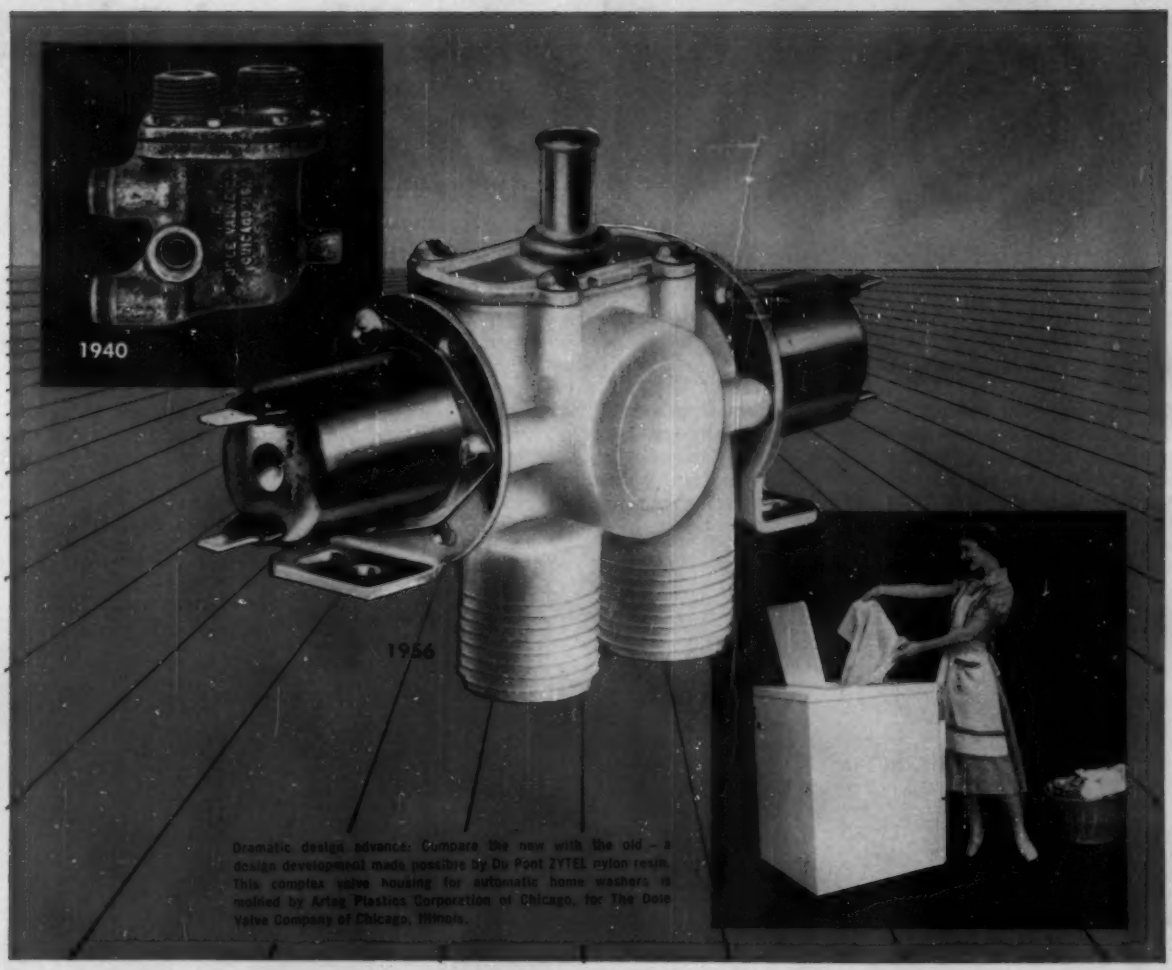
• **Cutting Tools**—The combining of various steels with titanium carbide skeletons has had an interesting outgrowth: a carbide tool material that can be machined. Sintercast says it is the only such carbide on the market; usually carbide cutting tools are so hard that it is extremely difficult to shape or reshape them. The Sintercast carbide can be machined easily when it comes from the infiltrating furnace, because of the steel filler. Then it can be brought to cutting hardness by regular tempering.

This carbide, called Ferro-TiC, combines several of the characteristics of conventional cemented carbide tools and ordinary steel tools. The carbide skeleton makes it more resistant to wear than plain steel; the steel filler makes it highly resistant to impact.

• **Cost and Quantity**—At present, the Sintercast plant at Yonkers, N. Y., is making limited quantities of carbide-steel material for tools and dies, and some other combinations for parts subjected to hard wear.

Prices run between a third and a half of those of conventional tungsten carbide.

As for turbine blades, all production is going into experimental work with cost still secondary to performance. END



Dramatic design advance: Compare the new with the old — a design development made possible by Du Pont ZYTEL nylon resin. This complex valve housing for automatic home washers is molded by Artag Plastics Corporation of Chicago, for The Dole Valve Company of Chicago, Illinois.

How to improve design and product performance with Du Pont ZYTEL® nylon resin

Dramatic improvements are being made in automatic equipment for both industry and the home. Imaginative use of modern engineering materials like ZYTEL nylon resin makes these improvements possible. Parts of ZYTEL are tough, strong in thin sections, light in weight, and offer good chemical resistance. Injection-molded to close tolerances, parts made of ZYTEL nylon resin usually need no further finishing.

Frequently, one molded part of ZYTEL replaces a complex assembly. These factors help reduce unit costs substantially.

This valve housing of ZYTEL is an important improvement in the automatic home washer. Molded threads on the two inlets in the solenoid-operated Dole Water Control Unit, pictured above, are strong and durable. Exposed to water of varying temperatures, ZYTEL is non-corrosive. Production, maintenance and replacement costs are reduced—typical of the results possible with the proper application of Du Pont ZYTEL nylon resin. The use of ZYTEL in your product could result in greater savings and better performance.

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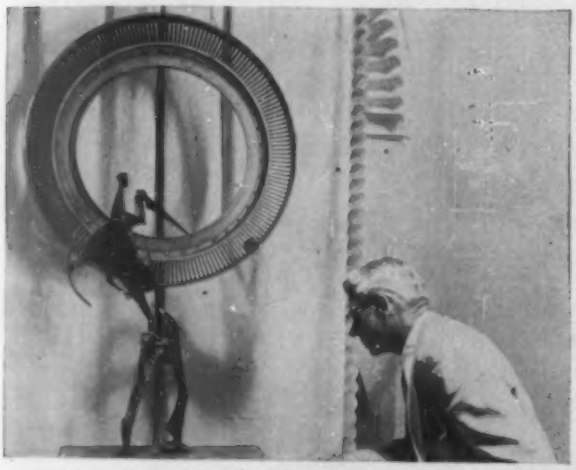
Art and Plane

San Diego gallery makes a one-industry show by bracketing abstractionist art with some "humdrum hardware" collected from local aircraft factories. To a friendly eye, there's kinship, though the theme is a trifle tenuous.

FINS and fairing dominate the entrance to San Diego's flight show. There were photos, drawings, too.



TURBINE section provides a halo for Bella Feldman's "Warrior," sculpted in metal.

WING PART, upended, matches the mood of Paul Darrow's abstract painting, "Bridge."

FAIRING, a shape from a jet plane, is kin to Gothic arch, and modern concrete work.

Parts Are Kissing Cousins

San Diego's Gallery of Fine Arts bonneted the aeronautical engineer with an artist's beret at it's current exhibition (pictures). Collecting a batch of what one aircraft industry spokesman calls "humdrum hardware," the museum came up with a one-industry art show that matches cubism with castings, check-valves with pre-Columbian pottery.

The exhibition, which was put together by museum director Warren Beach, comes off surprisingly well. Beach dreamed up the idea when he was asked to put on a special exhibit for San Diego's month-long Fiesta Del Pacifico. He felt the show should keynote a community specialty, yet stick to fine art. He picked "Designed for Flight" as a theme, since about half the populace around San Diego is concerned in one way or another with the aircraft industry. And in the form-follows-function school, according to Beach, aircraft design is hard to beat.

• **Innards**—For material, the museum collected airplane innards from plants of Convair, Rohr, Ryan, and Solar, then added a sprinkling of sculpture and paintings by artists Harry Bertoia, Paul Darrow, Jean Helion, and others. Beach admits the connection between the hardware and his selected abstractions is somewhat tenuous. But he claims the exhibit shows how each has been influenced to some degree by the other "if no more than that each is the product of creative contemporary minds." For Convair's general manager, B. F. (Sandy) Coggan, "The similarity of part and art is startling."

Rohr, Solar, and Ryan, evidently reluctant to deliver art criticism, declined to be quoted, but owned up that they are pretty pleased by employee interest and the larger than usual museum traffic—about 12,000 people looked the show over in its four week run.

The Smithsonian Institution inquired about the possibilities of the show as a traveling exhibit. Beach doesn't think it would work, because "A large part of the show's impact comes from having the material from local plants. You'd lose it in Seattle or Kansas City." But Beach is all for having other museums take up his idea. There is plenty of local art, he believes, in automobile parts, machine tools, farm implements and electronics.

SKETCHES for plane, called brown line drawings, and sculpture "Ascendancy" by Van Duering frame museum director Warren Beach.

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PRODUCTION BRIEFS

Texas Instruments, Inc., Dallas-based maker of electronic and geophysical equipment, added to its optical know-how and production facilities when it bought Wm. I. Mann Co. of Monrovia, Calif. The new broad optics line will be consolidated at the Monrovia plant. The Mann Co. has annual sales approaching $900,000; Texas Instruments, one of the largest producers of transistors, had 1955 sales of $28.5-million.

•

An expected doubling of the appliance market by 1965 is behind General Electric's plans to build a 145,000-sq.-ft. plant at Murfreesboro, Tenn. The new plant, which will turn out fractional horsepower electric motors for home laundry and electric sink appliances, will be completed in 1957.

•

Production of para-cresol and its derivatives will be doubled by the planned expansion of Hercules Powder Co.'s Gibbstown (N. J.) facilities. The new setup will turn out 6-million lb. a year of para-cresol, a basic raw material in making antioxidants and anisaldehyde, which is used in manufacturing a special type of synthetic hormone.

•

Horizons, Inc. has a $200,000 Navy contract to develop commercial production of virgin titanium by Horizons' improved electrolytic process. Titanium makers now use magnesium or sodium reduction processes.

•

Lightweight movable partitions of aluminum for industrial and institutional interiors will be introduced by a partnership of Reynolds Metals Co. and E. F. Hauserman Co. of Cleveland. The line is now in the design stage, should be in production early next year.

•

Ingot capacity will be boosted 9% at Armco Steel Corp.'s Middletown (Ohio) works when a new 500-ton open hearth furnace is completed by mid-1957. The $2-million furnace will have a monthly capacity of 17,000 tons of steel. It will be the third new open hearth furnace to go into operation at Middletown in an 18-month period.

•

An electrical equipment plant will be built outside Lexington, Ky., by the Square D Co. of Detroit. The $3-million, 150,000-sq.-ft. plant will be used for assembly of special panelboards and switchboards for regional markets. Construction should begin within 60 days; completion is expected within a year. Initially, the plant will employ several hundred persons.

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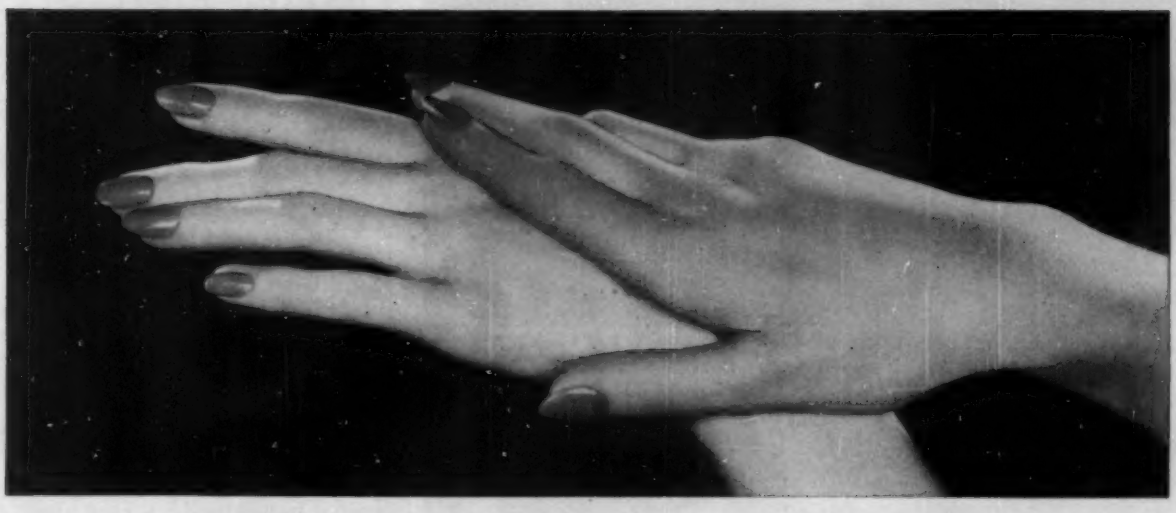

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Nuts, bolts, and steel plates, wholly without trusses, give Phoenix (Ariz.) Coliseum unencumbered space aloft and . . .

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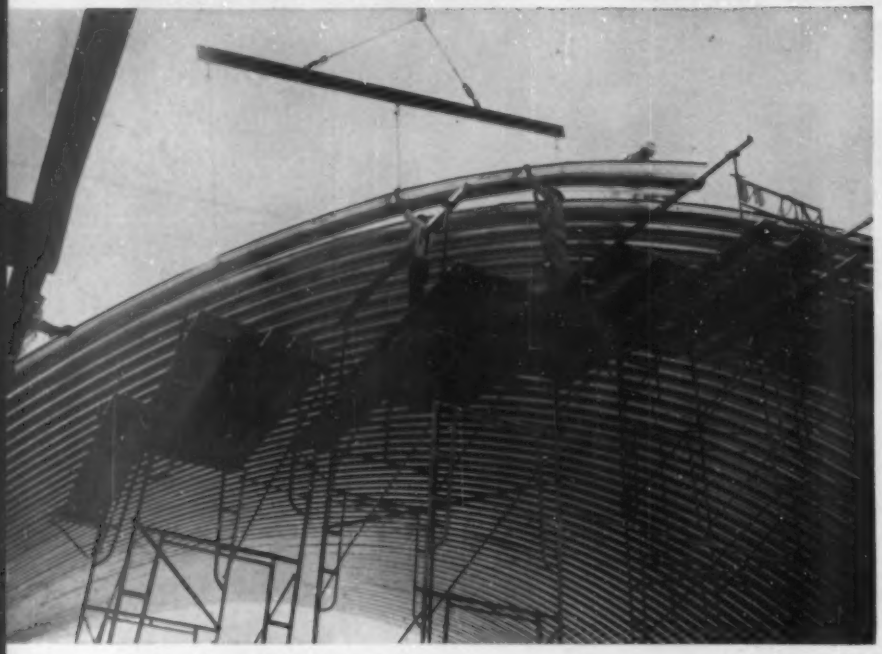

Two-way corrugation of the plates gives whole support of roof 120 ft. by 260 ft.

Nuts and bolts are used in preassembly of plates that make up roof sections.

Phoenix Coliseum, in early stage, shows how the 120-ft. span is free of added supports.

Nuts and bolts, plus a special doubly corrugated pattern, do the whole job of holding up what's believed to be the world's largest trussless steel roof. Designed and built by the Wonder Building Corp. of America, Chicago, for the new Phoenix (Ariz.) Coliseum, the roof has a clear span of 120-ft. (pictures).

Named the Wonder Roof, it is the first of a new line of low-cost roofs for convention halls, arenas, hangars, and other buildings that require wide, unobstructed ceilings.

• **How It's Built**—The roof is built entirely of curved sheets of 18-gauge (about ☆ in. thick) galvanized steel. Each sheet is 2 ft. wide, from 6 ft. to 10 ft. long, and shaped with a two-way corrugated pattern for rigidity and strength. Pre-drilled holes along the sides and at the ends of each unit can be quickly fastened together with ordinary nuts and bolts.

After the sections have been fastened together on the ground they are hoisted by crane and bolted in place to form self-supporting arches. A light scaffolding can be moved along the roof as the job progresses.

Maximum width of the Wonder Roof is 120 ft. at present, but it can be made as long as desired by fastening sections together.

Although the metal panels are less than ☆ in. thick, the finished roof is designed to withstand hurricane winds of over 113 mph. and to bear up under loads of up to 42 lb. per sq. ft. (the equivalent of 5½ ft. of snow). The company claims that if one section of the roof were destroyed by overloading or accident, the rest would remain standing.

• **The First Job**—The first installation of the new roof, in Phoenix, is 260 ft. long. The entire job was completed in only 450 man hours, the equivalent of 7½ men working 7½ regular day shifts.

The $750,000 building, which will be used for conventions, horse shows, concerts, and athletic events, is the city's first specialized structure for such activities. Because of the completely trussless construction, its 5,000 permanent seats will all have an unobstructed view.

The 40-ft. center height of the roof gives it potential use for circuses and other attractions that require high ceil-

ings. Aerial rigging would be greatly simplified because of the absence of roof supports.

Insulation for the roof can be applied by simple spray techniques. In the air-conditioned Coliseum, a ½-in. layer of Zonolite plastic was sprayed directly on the underside of the metal. This layer also does an important acoustical job.

The manufacturer reports that four other king-sized Wonder Roofs are now going up around the country.

• **Costs**—Material costs of the new roof run about 75¢ per sq. ft., erection costs average about 15¢ per sq. ft. The company says that the total cost is about ¼ less than that of conventional roofs. Besides the 120-ft.-wide model, the roofs are available in sizes down to 60 ft. wide.

NEW PRODUCTS BRIEFS

Tighter screws: A new plastics liquid called Loctite is designed to harden inside threaded fittings and prevent loosening caused by vibration. The sealant, developed by American Sealants Co., Trinity College, P.O. Box 260, Hartford 6, is said to resist chemical attack by oil, common solvents, and water. The material sets in about 24 hours to a seal that will withstand temperatures of 300F. A trial kit costs $5.

•

Magnetic power transmissions for conveyor systems and other jobs will be manufactured by Whitney Chain Co., of Hartford, under a licensing agreement with Tormag Transmissions, Ltd., of Vancouver, B. C. Since power is transmitted entirely through magnetic forces—there is no mechanical or fluid coupling—the unit can be stalled without hurting it or the motor. It is also reversible and designed to be 95% efficient at rated hp.

•

Keeping lawns green: A form of ferrous ammonium sulfate (it contains 7.5% nitrogen, 12% iron, and 11 trace mineral elements) is being sold as a plant food by Vital Earth Corp., of 1 E. 35th St., New York. It is said to turn brown scorched grass green in six hours or less. The plant food, called Fast, is a byproduct in several widely used chemical processes and is estimated to cost 70% less than other plant foods designed for the same purpose.

•

Adjustable linear bearings that can be changed in diameter to assure a perfect fit around the moving shaft are being manufactured by Thomson Industries, Inc., of Manhasset, N. Y. The bearings are split lengthwise and the split can be widened or narrowed. They are available in standard sizes from 1 in. to 4 in.

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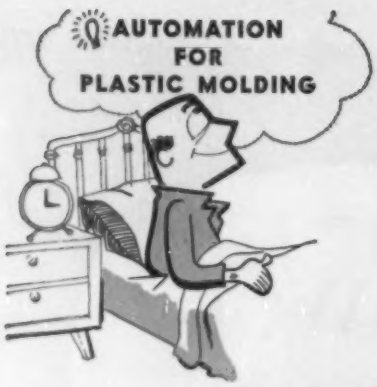

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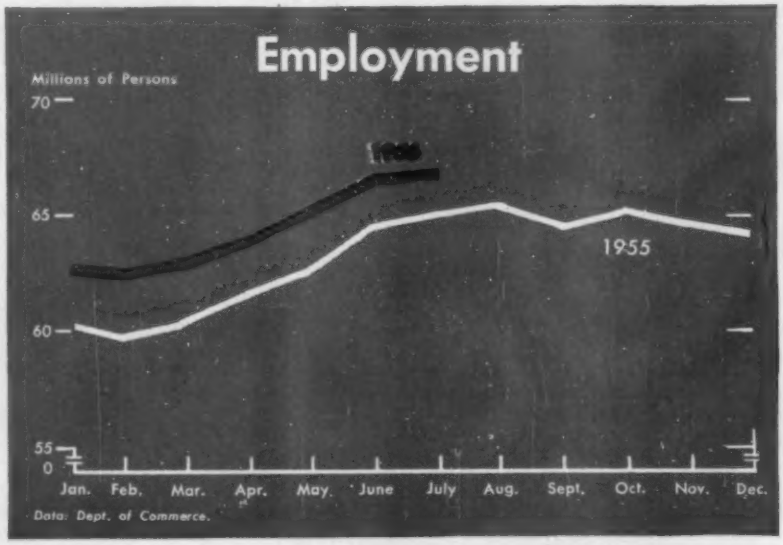
WHEN **BUSINESS MEN** WANT **BUSINESS NEWS** THEY TURN TO **BUSINESS WEEK**

CHARTS OF THE WEEK

The Shelves Are Crowded

Business inventories were still heading upward when the steel strike began. By the end of June, manufacturers' stocks climbed to an all-time high of $49.1-billion. Except for two months of no change, this was the 17th consecutive increase. However, the month-long steel strike almost certainly will lower the July figure.

The last sharp rise in inventories came in September, 1953, when inventories – after seasonal adjustment – reached $46.3-billion. It took a year to work them off.



July Sets a New Record

The number of persons employed in July added up to a 66.6-million record high. Last month's total employment was well above the level a year ago.

Unemployment in July showed a month-to-month drop – to 2.8-million from June's 2.9-million. But it was some 300,000 higher than in July, 1955. The

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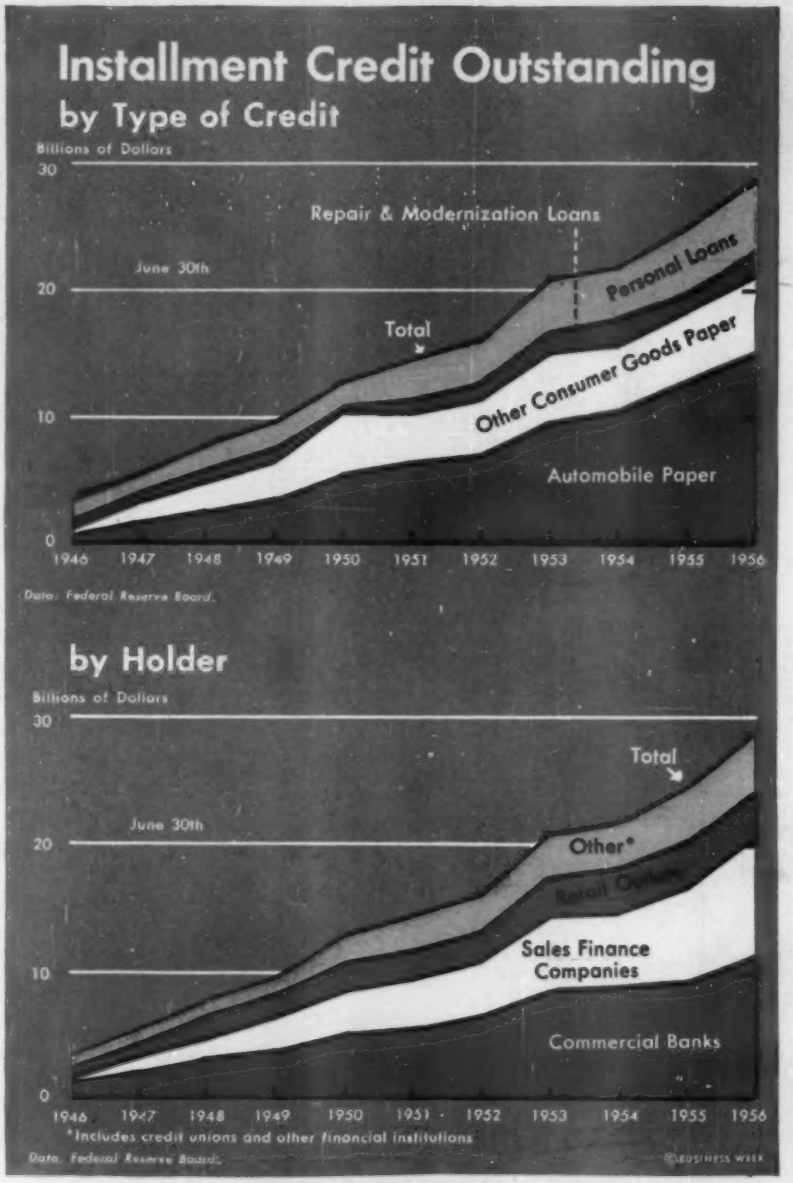
July unemployment figures do not include the 650,000 steel workers on strike during the month. That's because the Dept. of Commerce does not list a person who is out of work as unemployed unless he is seeking employment.



Autos Take the Biggest Slice

Americans kept right on adding to their installment debt in June. At the end of that month they owed a record $28.9-billion. Most of the rise was due to purchases of automobiles.

During June, total consumer installment credit outstanding increased $299-million over the May figure. Automobile credit accounted for $201-million, though that it was considerably less than the $576-million increase chalked up in June, 1955. During the last 10 years auto purchases on time have come back to their old place of dominance in consumer finance.

Commercial banks, likewise, have increased their role in the installment market. On June 30, they held $11-billion, or 38%, of the total outstanding. Sales finance company holdings were $9.3-billion, or 32%, compared with 14% as of June 30, 1946.

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New Candidate for Readjustment

The old business cycle may not be dead—but it certainly hasn't been visible in recognizable form during the postwar period. In the continuous process of "rolling readjustment" that appears to have taken its place, one industry after another has come under the wheel, while the rest of the U. S. economy maintained its balance and kept moving forward.

This past year, in fact, we witnessed the almost perfect model of how a "private recession" in one major industry—autos—could occur without causing a general decline. After a wild spree of overproduction in 1955, the auto industry was forced to curb 1956 output in order to mop up inventories. That operation is nearing its end. And the auto industry, having taken its lumps, seems to be getting set to surge forward in 1957.

But the economic wheel keeps turning—and now it appears to be housing's turn to come under it. Housing starts, which topped 1.3-million last year, are down to an annual rate of less than 1.1-million. And the decline in mortgage applications and residential building contract awards indicates that the decline is going to continue.

There's a big difference, however, between the recession that housing faces and the one the auto industry has just been through. The auto recession was caused by excess inventories. The housing recession is due mainly to tight money.

The Federal Reserve has been following an extremely restrictive monetary policy aimed at checking inflation (page 23). With commercial demands for credit pushing up interest rates, lending institutions don't want to put their funds into relatively low-yielding VA and FHA mortgages.

And the pressure on housing of tight money is compounded by hefty increases in the costs of building—resulting from higher material prices, rising land costs, and climbing wage rates.

So, with housing demand restricted by tight credit and construction costs rising, many builders are finding the going tougher and tougher.

What housing faces is not an inventory but a capacity readjustment—a shake-out of inefficient building outfits who were able to operate in the lush days of easy credit that have now disappeared.

But whether such a shake-out can put the housing industry in shape to regain higher levels of output remains to be seen. The industry will have a hard task in fighting its way through a serious jam in the money market.

Thus far, there's no sign that the decline in housing starts portends a real collapse in housing. Demand for new houses is still strong; vacancy rates are low; prices of existing houses, in most areas, are firm or rising. The signal for a real turn in the building cycle has invariably come from a softening in the general real estate market—particularly from the shrinkage of home-owners' equity in their present houses, which then takes them out of the market for new houses.

Should more serious trouble develop, the government will have to move to break the mortgage jam. Meanwhile, it's going to be extremely interesting to see whether, in the postwar economy's rolling readjustment process, the housing industry can take its lumps as successfully as autos did last year—or whether government will need to lend a hand to keep a private recession from becoming a public one.

An Industry Grows Up

Although economists have perfected through the years ways of measuring many facets of business, no one has yet found a yardstick to tell us when an industry reaches adulthood.

However, word that the Pacific Northwest Pipeline Corp. has begun delivering natural gas to the Pacific Northwest is as good an indicator as there is that the natural gas industry has reached this point of development.

For until now, the Pacific Northwest has been the only major section of the country without natural gas. The new pipeline brings to this area the promise of cheaper fuel, new plants, and new jobs. But more than that, it spells out the fact that in the short span of 25 years the industry with its long-line pipelines has reached adulthood.

The first long-distance gas pipeline was built in 1931 and carried gas from the Oklahoma gas fields to the Chicago area—and at the time it was thought to be a great gamble.

Today, natural gas is a $12-billion industry, supplying one-quarter of our country's energy requirements and reaching into 23-million homes. Its 141,710 miles of transmission pipelines equal almost six times the earth's circumference.

As natural gas emerges into a new era, we find that an old era—that of manufactured gas—is passing from the business scene. From its first use in 1816 in Baltimore to as recently as 1944, manufactured gas, in terms of customers, was the predominant gas fuel. Today, manufactured gas accounts for only 2% of all gas used, and its percentage is shrinking.

The old-time gasworks is likewise disappearing from the scene. Its sooty appearance and acrid smell and its familiar "gashouse gang" will soon be relegated to nostalgic remembrances. It all serves as a reminder that business is not static but has a dynamic cycle of birth, growth, and death, just as human life has.

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